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MOUNT RAINIER—ABOVE THE CLOUDS.

SKETCHES OF WONDERLAND

BY

OLIN D. WHEELER

A LAND OF

ROLLING PLAINS
BOUNDLESS GRAIN FIELDS
SCULPTURED LANDS
ALPINE LAKES
MINING CAMPS
INDIAN LIFE
DANCING RIVERS
THRIVING VILLAGES
TRACKLESS FORESTS
GROWING CITIES
LOFTY MOUNTAINS

PENETRATED BY THE NORTHERN PACIFIC RAILROAD

Illustrated.

Copyright, 1895
By Chas. S. Fee, General Passenger and Ticket Agent,
Northern Pacific Railroad, St. Paul.

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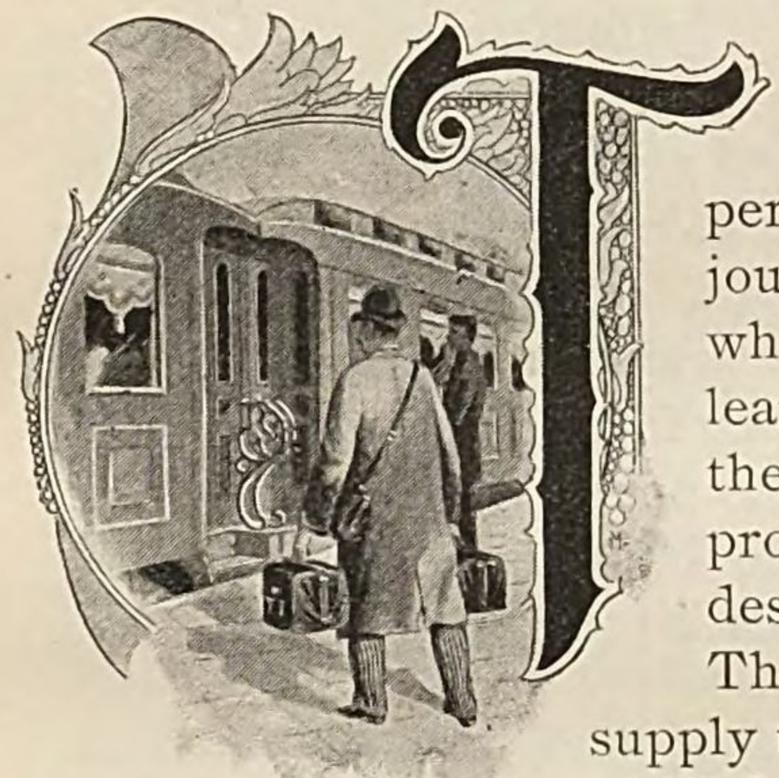
SKETCHES OF WONDERLAND.

ALONG THE LINE.



THE majority of travelers belong to two classes: Those who, for a business or personal reason, are anxious to reach their journey's end as soon as possible; and those who are traveling for pleasure, and seek to learn all they can of the country over which they journey. The latter class are usually provided with guide-books, maps, etc., which describe the special features of the region. There are many, however, who do not thus supply themselves with these adjuncts of travel.

This chapter is written to supply those unprovided with more detailed accounts, with a brief mention of what is to be seen from the car windows in a trip over the Northern Pacific Railroad, its more prominent towns, cities, pleasure resorts, etc.

The greater number of through travelers over the Northern Pacific will take its trains either at St. Paul or Minneapolis, the main eastern termini of the system. Usually, if connecting trains are on time, there will be several hours that can be utilized in viewing the interesting sights in these splendid Northwestern cities. St. Paul is the elder of the two, and the capital of Minnesota. It has, in the past, been considered as a commercial point rather than as a manufacturing center, while in the latter respect Minneapolis has been in the lead. The magnificent water-power at St. Anthony's Falls, in the early years of its existence, brought the latter city to the front in this line. Both cities are, however, rapidly extending their investments in the direction in which each has been the weaker. Minneapolis has thus added to its capital in commercial enterprises, and St. Paul has been augmenting both the number and variety of its manufacturing industries.

As a pair of sturdy, well-built cities, a credit to Northwestern enter-

prise and pluck, the two form a combination hard to surpass. There has been, in the past, considerable senseless acrimony and jealousy between themselves. This is growing less, and will in time cease. The interest and destinies of the two are almost identical, and a puerile jealousy should not be allowed to retard the growth of either.

St. Paul is a very attractive city, and is capable of being made one of the most, if not the *most*, beautiful city in the United States, if its people only rise to the full appreciation of their opportunities.

Mounds and hills abound in various parts of the city, affording a landscape unrivaled. The Mississippi River winds through the city, and forms, with its white sandstone bluffs and tree-clad hills, a very important feature of this landscape.

Minneapolis stands upon ground more level and regular than does its sister city. It is much better laid out, with broader streets, and has many fine parks. The Mississippi also cuts it in twain, but being utilized for its great flour and saw mills, loses most of its scenic attraction. This is atoned for by Lakes Harriet and Calhoun, which form a resort frequented by large numbers of people, and as beautiful as popular.

The railroad follows the east bank of the Mississippi, after leaving these cities, to Little Falls, a manufacturing place of good size. En route, St. Cloud is passed.

Beyond Little Falls the road winds through a pine and tamarac region, quite diverse from the open country along the river.

At Staples, the line from Duluth, West Superior, and Ashland is reached. These cities are ports at the head of the Great Lakes touched by the Northern Pacific system. The latter is an important port, on Chequamegon Bay, in Wisconsin, for shipping Gogebic iron ore down the lakes.

West Superior, also in Wisconsin, and Duluth, in Minnesota, are at the extreme end of Lake Superior, and the head of navigation. West Superior, located upon a level plain, and Duluth, climbing up a rugged hill, are across the bay from each other, and the very opposite in appearance. The rapid and recent growth of these cities is well known. Here the vessels of the lakes, both sail and steam, bring large quantities of coal and merchandise, and carry back with them wheat, lumber, flour, and iron ore. Huge elevators, long coal docks, and large flour-mills line the water front. Wonderful little cities, they are destined to go on in the future as in the past, increasing in population and importance.

THE LAKE PARK REGION.

A lake is always an object of interest, whether it be large or small, round or narrow, its edges decked with trees or wild grasses, bordered

with frowning rocks, or simply a fringe of gleaming sand. Whether it be seen when quiet and apparently asleep, or when roused by the rasping wind it boils and frets itself into a troubled, heaving mass of yeasty billows or angry white-caps, it always attracts the sight-seer. Sometimes it is its innate beauty that holds him speechless; again its vehement passions meet quick response in his breast, so prone is mankind to be affected by his surroundings, by what at the time being enchains his every sense.

If one lake may thus compel one's admiration, what think you of a region that contains thousands of them?

Leaving Staples, the railroad cuts across the celebrated Lake Park Region of Minnesota, and the way it is compelled to twist, turn, and dodge around knolls and hills, to avoid being carried pell-mell into some of these lakes, is a caution. Jumping to one side to avoid one of these watery pitfalls, it almost tumbles into another, and discovers it just in time to leap away in another direction, only to find two or three more ready to engulf it. And thus it goes, mile after mile, turning the flank of this one, ducking behind a high mound to beat that one, slyly creeping into a little valley to escape the tentacles of another, while all about it glisten the water rogues, laughing at the poor track as it worms itself here and there in its efforts to dodge them, or, perchance, lashing themselves into angry foam as it successfully eludes them.

The history of this region is an interesting one, and takes us back thousands of years—back to a time when this goodly land was covered with ice; back to a time when life, perchance, was extinct, and when the solitude was broken only by the grinding and cracking of glaciers as they crowded their way ahead; back to a time when the whole land was white and jagged with the pinnacles of ice that stretched down for hundreds of miles from the north, perhaps from the very pole itself. And then came a change. The frigid reign of the ice-king was broken. From the south came, may be, the breath of the equatorial god, warming and melting the surface of the ice-floe, insinuating itself into the cracks and crevices, penetrating the interstices of the frozen sea. And then, demoralized by this visitor from the tropics, it began to melt, retreat, and collapse. Great holes were opened in its surface, gaps rent in its sides, and breaking, trembling, giving way here, there, everywhere, it sullenly fell back to the land of eternal snow from whence it came, and strewed over the land the vast amounts of debris it had torn from the hills and cliffs in its ruthless fashion on its downward journey. And, presto, what a change! A new land is born. Gone, the scene of desolation, of ice, of cold, of lifelessness. Come, a land of life, of beauty, of knolls, and hollows, and flowers, and shrubs, and trees.

"With verdure clad the hills appear,"

and, nestling at their feet, lie shimmering lakes and cool ponds. Running from lake to lake in the winding ice furrows left behind, are rippling streams rejoicing at the end of the long winter that has overlain the land. In the thickets are singing birds, in the meadows nodding flowers.

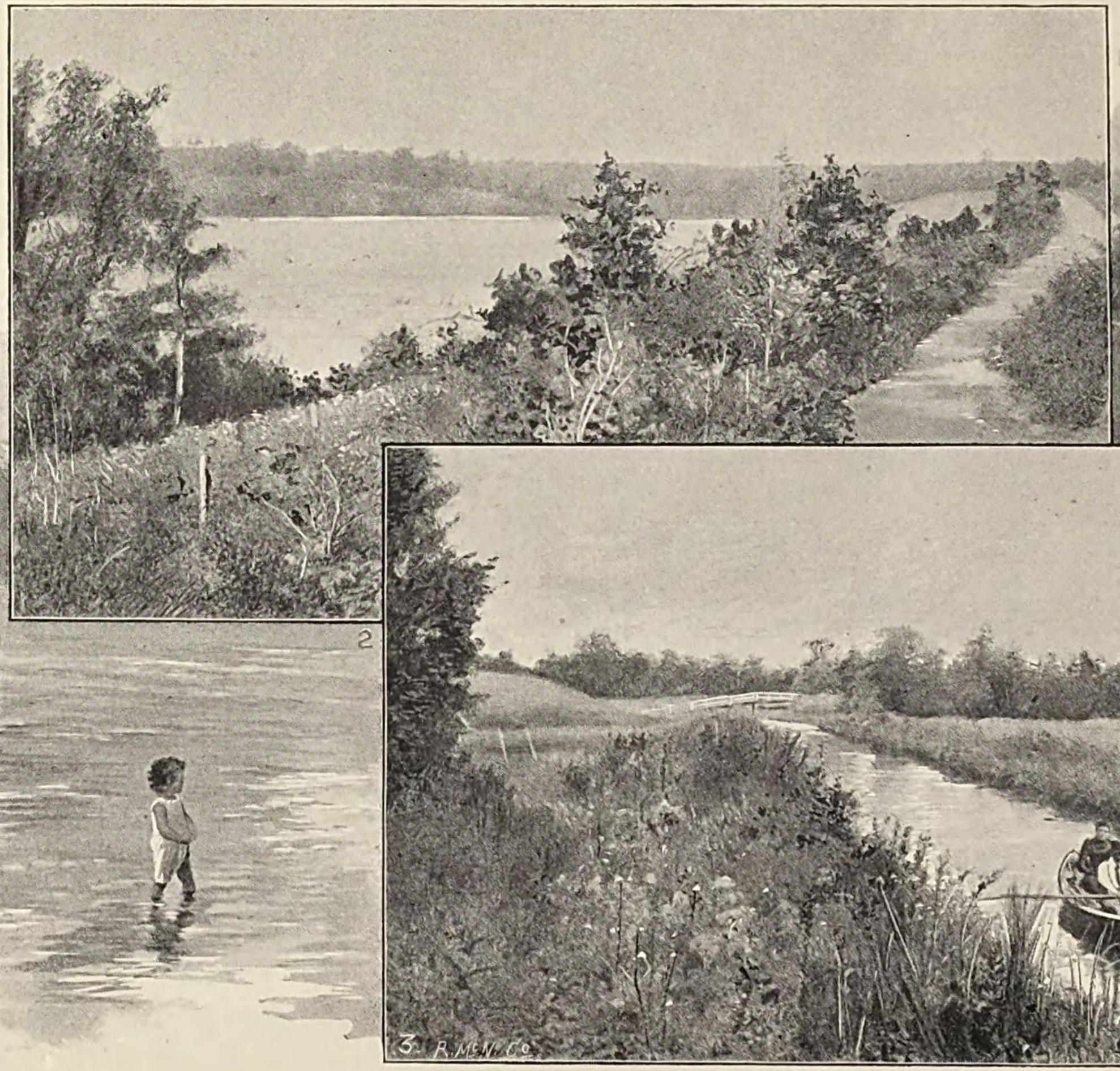
And thus was formed a beautiful land, one of lofty hills, graceful slopes, verdant nooks, crystal streams, limpid lakes—a land where man "by the sweat of his face" lives out an existence amid surroundings the most elevating; a land of splendid farms; of prosperous, healthful hamlets; of innumerable pleasure resorts, where boating and fishing and out-of-door sports are indulged, where men and women, boys and girls are made better, and purer, and nobler for their lots being cast in such pleasant places.

Detroit, on the main line of road, is the most important of these resorts for the tourist. It is located upon a chain of navigable little lakes upon which small steamers ply, giving to the tourist a most pleasant break in a transcontinental journey. Only about 200 miles west from St. Paul, with good hotel accommodations, in the heart of the Lake Park Region, where not only are lakes in all directions, but also a country traversed by winding roads, it makes an excellent stopping point and should be jotted down in the tourist's note-book for future reference.

THE RED RIVER VALLEY.

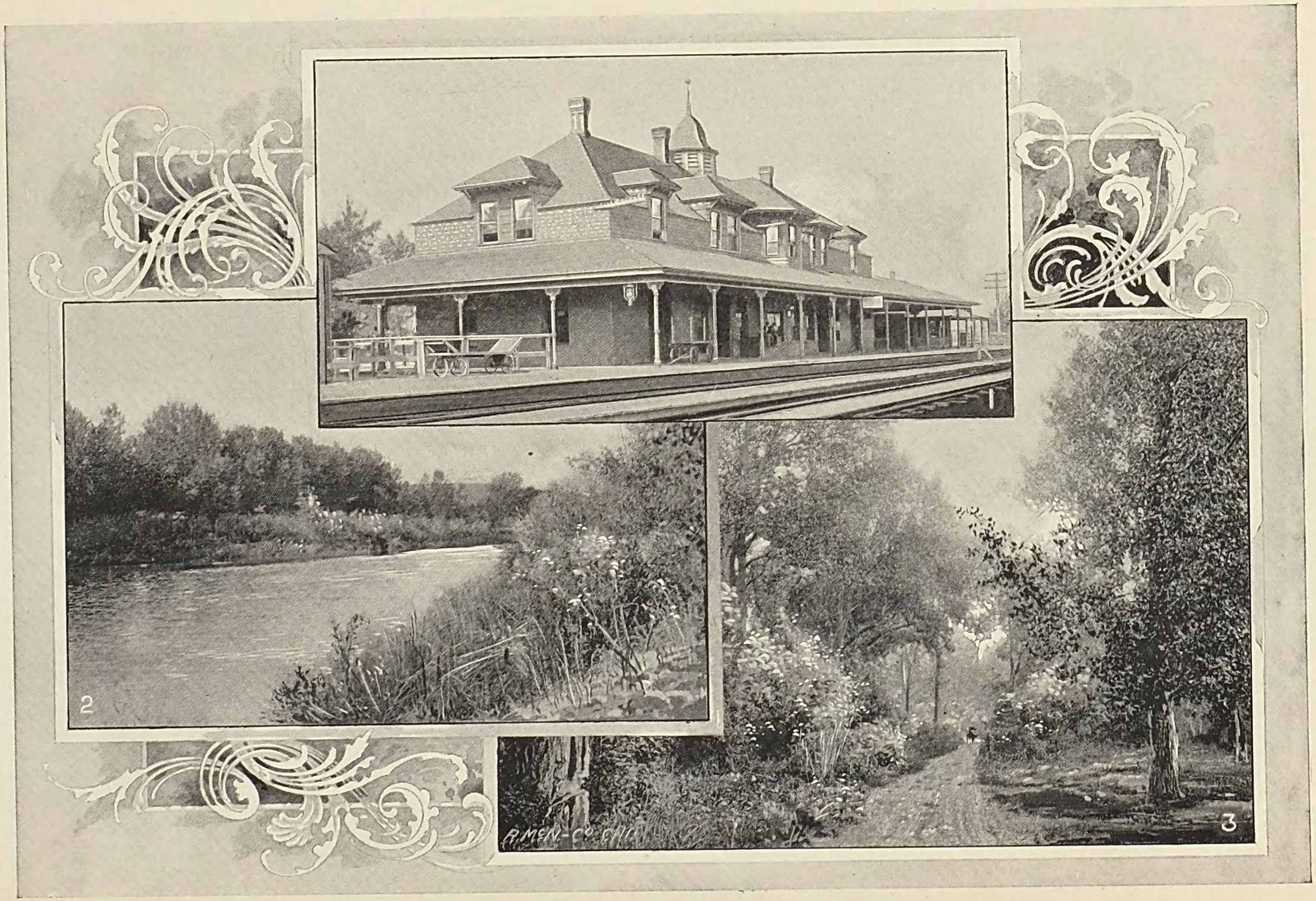
Beyond the Lake Park Region lies the Red River Valley. This is the great wheat-field of the country. The land of mammoth farms, of thousands of plows, of reapers, harvesters, and threshing machines in great numbers, and with armies of attendants waiting upon them. From the railroad stations the harvests of wheat are hauled away in long lines of freight trains made up of loaded wheat cars alone. Night and day the loading of these trains goes on, until the year's surplus of the golden grain has been started on its way to the great mills at Minneapolis or Duluth, or to be stowed away in the holds of those new-fangled whaleback steamers at West Superior.

Fargo and Moorhead on the main line of the road, and Grand Forks and Winnipeg on the Manitoba branch line, are large and distributing points of the Red River country. Moorhead is in Minnesota, Fargo—across the Red River from Moorhead—and Grand Forks are in North Dakota, and Winnipeg is the chief city of Manitoba. These cities all have the enterprise found in larger cities in the East or West, electric lights, fine brick and stone blocks, graded streets, etc.



DETROIT LAKE AND VICINITY.

1. Floyd Lake. 2. Bathing Scene. 3. Between Detroit and Muskrat Lakes. 4. Outlet, Lake Sally.



MANDAN, NORTH DAKOTA.

1. Mandan Station. 2. Heart River. 3. Near Mandan.

STILL WESTWARD.

Leaving the Red River Valley the road crosses in succession the valleys of the Sheyenne and James. North Dakota has few important waterways, and the Sheyenne and the James are two of the largest. Valley City on the former and Jamestown on the latter are thriving towns.

Between Jamestown and Bismarck the country is a high, rolling prairie country known as the *Plateau du Coteau du Missouri.* There are some patches of timber, lakes, and ponds, but no streams. It is a good farming and stock raising country.

Bismarck is the capital of North Dakota. It is a fine town on the east bank of the Missouri River. The country roundabout is a high, rolling prairie, with numerous little valleys where farming can be carried on, and which are more or less occupied.

The view from one of the high hills discloses a landscape fair to see. The wide bottom of the Missouri, heavily wooded, stretches from the far north many miles to the south. If the time be in June, the rains will have left a wonderful sea of undulating green, brightened by patches of wild flowers. If in the fall, a great sea still, though now of brown russet waves.

Across the river from Bismarck lies Mandan. The name was probably suggested by the fact that this region used to be the hunting-ground of the Mandan Indians. It was among these Indians, at a point on the river perhaps forty miles above, that Lewis and Clark, the celebrated explorers, wintered in 1804-5.

Westward from Dickinson for twenty or thirty miles the road traverses an excellent agricultural and grazing country.

If the traveler makes a trip over this railroad in the months of May or June, he can hardly fail to be impressed with the fact that this immense land, from the Lake Park country west to Pyramid Park, was intended by the Creator to be the abode of a tremendous population. If one cares not for agriculture, why there is room here for unnumbered flocks and herds. Horses, sheep, and cattle can each have all the room desired without trespassing upon the rights of the others.

People turn from the healthful, independent farm to the unhealthful and dependent life of the cities. By just so much the army of consumers is increased and the number of producers decreased. And what is the state of affairs we find existing, for which this is at least partially responsible? A great feeling of unrest and distrust pervading the whole country. In places anarchism and socialism almost rampant, and strikes and all manner of lesser evils following in their train.

Few of us get much more than a bare living out of this world. The

man that is fitted for it, who will forsake the often unreal life of the crowded community, and establish himself upon a *small* farm, *not* a large one, can at least have a roof over his head, bread and butter, pork and mutton, milk and eggs, and potatoes and vegetables to eat, and clothes to cover his nakedness. How hard a struggle many have to obtain even these where they now are.

All through the region above mentioned are thousands of acres waiting for these unhappy denizens of the city to come and till them. In great breezy waves of green or brown, they go caracoling to the North and South, the East and West, waiting, waiting, until in the fullness of time they shall be dotted with the cattle, sheep or horses, and fields of grain and corn, and clover and timothy, with neat and comfortable houses of the small ranchman and farmer ensconced among them.

And more than this. Extending beyond these plains and prairies of Minnesota and North Dakota are other valleys and other plains. Across the luxuriant plateaus and hills of Pyramid Park, dipping down into the cliff-walled valley of the Yellowstone, the Elk River of the Sioux, the scene of many a skirmish and battle between white and Indian; through the wide-spreading Gallatin, a fine mountain-walled valley; through the valleys and cañons of the Hell Gate, Missoula, and Clark Fork, with their fine ranches, to the beautiful Lake Pend d'Oreille, and thence to the Sound country, go the shining steel bands.

What an empire, a land of future hopes, is here ready for settlement! Think of the thousands upon thousands of happy homes awaiting those who will only go up and possess the land! "You pays your money and takes your choice," for all variations of climate, all sorts of land, are to be found, and one has but to select what he wants to obtain it. God grant that the time is not far distant when this goodly country may be peopled by those of our urban population now scarcely able to obtain the necessities of life. Thus settled on small farms and ranches, they would form pleasant and neighborly communities, and become under normal conditions of life and government the bone and sinew of our country, the pride of the most beneficent republic under heaven.

PYRAMID PARK.

I dislike exceedingly to use the title Bad Lands in connection with the wonderful region found in Western North Dakota, just beyond Dickinson. I dislike it more than ever since making a hasty tour of a portion of it. The sculptured lands is the way I like to think of them, for Nature has carved out here, on a most magnificent scale, such a medley of buttes, cliffs, bluffs, crags, and pyramids, to say nothing of small stone and clay

designs, that one almost stands aghast when riding through the weird, bewitched land. Pyramid Park is another name given to it, and very appropriately fits it. Those who live within its bounds, whose herds of horses and cattle graze upon its thousands of hills, feel that they are the *good lands.* Such a wrong impression does the name Bad Lands give of this country that I never use it without a mental protest at so doing.

To the tourist, the interesting feature of Pyramid Park is of course the strange configuration and coloring of its cliffs and hills. Nowhere else in this country can be seen such landscape architecture. Unless the study of nature has been sadly neglected, one will here find sermons in stones, and songs in running brooks.

The Park may be said to follow in a general way the line of the Little Missouri River. This stream is usually quite wide, and from two to four feet deep. The railroad crosses it at Medora. From this point as a center, the traveler or student can radiate either up or down the fine wooded valley of the river, or extend his investigations away from it. Good ranches are found at frequent intervals, and camping spots anywhere. Back from the vicinity of the railroad, deer, and especially antelope, are still found in large numbers, and prairie chickens are plentiful.

At Glendive the railroad enters the valley of the Yellowstone. This it follows to Livingston, the point where the Yellowstone Park Branch diverges, thence crosses a spur of the Rocky range to Helena. En route the thriving towns of Miles City, Billings, Big Timber, and Bozeman are passed.

The Yellowstone Valley is a grand one at any time of the year, abounding in picturesque scenes, and at the upper end showing fine views of the Crazy Mountains to the north, and the mountains near Livingston on the south.

Helena is the capital of Montana, and an interesting city to one who desires to rest from travel for a day or a week. It lies at the base of Mount Helena, has fine business blocks and private residences, electric cars and lights, and all the nineteenth century improvements of an even larger city in the East.

OVER THE MOUNTAINS TO BUTTE.

At Logan a branch leaves the main line for Butte, the great mining city of Montana, thence via the Montana Union Railway, traverses the celebrated Deer Lodge Valley to Garrison on the main line. At Bozeman the train is divided, a portion of it, including the Seattle sleeping car, going via Butte and making connection with the main line train again at Garrison.

The Butte line at first traverses the valley of the Jefferson River. This is one of "The Three Forks" of the Missouri, and a beautiful stream. Following the Jefferson well into the mountains, the range is boldly attacked, and the summit attained at the Homestake Pass.

Butte itself is a strange place. Essentially a mining city, this fact is shown at a glance. No green hills or trees are seen, owing, it is said, to the presence in the atmosphere of the gases from the smelters. Built upon a number of hills, the appearance of the place to the man on the train is that of a city devoid of ornamental features, devoted entirely to the business which brought it into existence.

ACROSS THE ROCKIES.

Soon after leaving Helena the railroad begins to climb the Rockies. The name Rocky, as applied to the great mountain range in the West, refers to a system rather than to any one particular and isolated chain. This system is broken into many separate but related ranges, spurs, offshoots, etc., each having its specific designation, but being at the same time an integral part of the greater range. Thus the Northern Pacific really crosses three distinct portions of the Rocky Mountains. First, between Livingston and Bozeman; second, what may be termed the main range, west of Helena, and a third time the Mission Mountains just beyond Missoula.

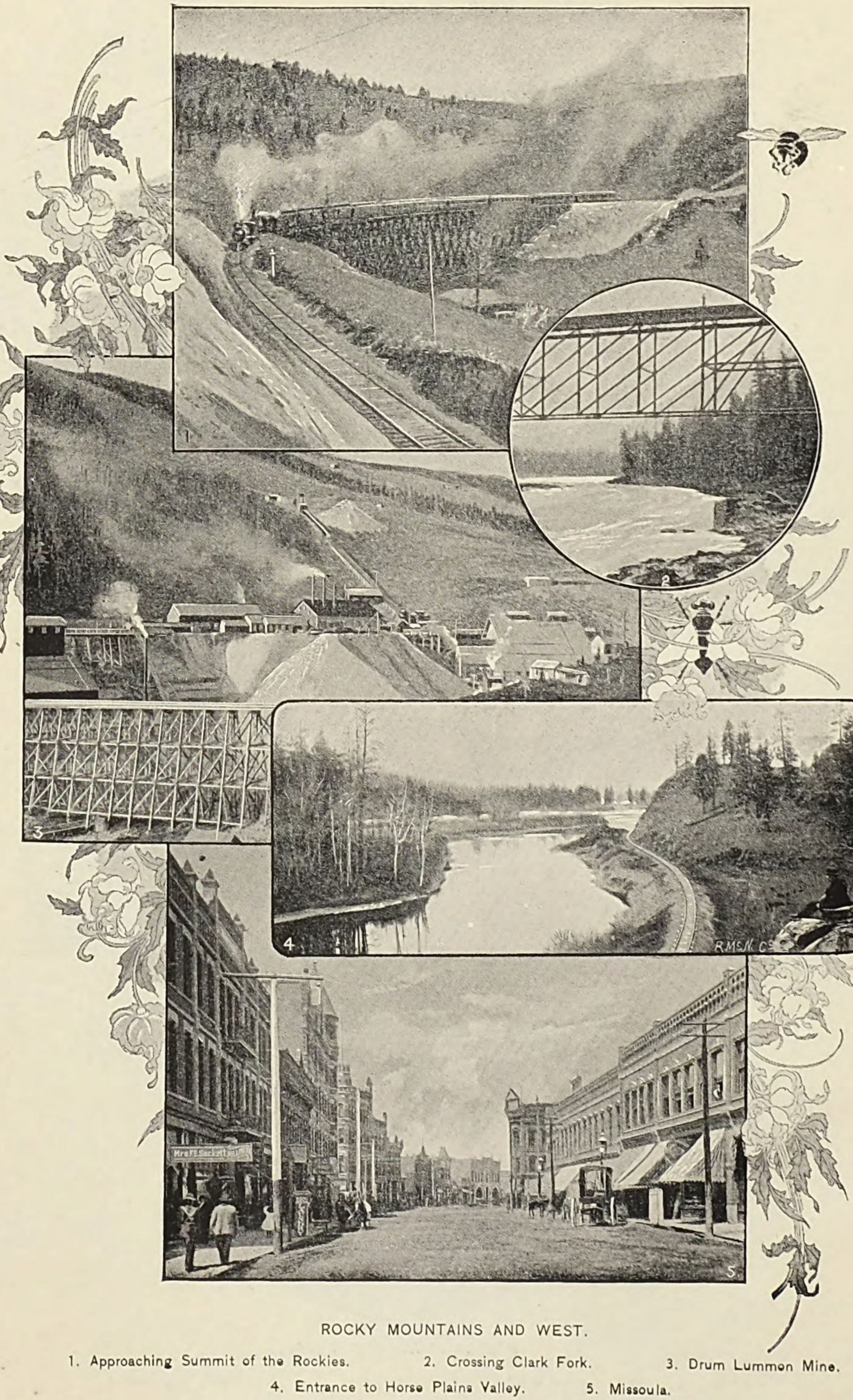
The climb up the range after leaving Helena, while devoid of the more exhilarating effects of mountain railroading as seen in some places, is yet very interesting, and one obtains a good idea of the methods used by engineers to overcome such obstacles. The scenery, while not as wild and rugged as we shall afterward see in the Cascades, is full of inspiring sights.

The entire landscape is a maze of mountains and rocks. Sharp, conical peaks connected with elongated, timbered crests by knife-like ridges stand at the highest elevations. At the lower levels huge dunes of black and weathered granite, washed clean and cold by the storms of centuries, monster examples of Dame Nature's patient work, project high in the air. Entire buildings might be constructed from the material in some of these monuments.

The road squirms in all directions. Now it overlooks a deep ravine, again cuts through a cream-colored bluff. From a high embankment, we gain a chance view of a trim little garden patch far below, with its cosy whitewashed house, lying squat in the cañon. As the train gains elevation we can look back upon our iron trail for miles, and see where we have wound about the old mountains, across ravines, through

SCENES IN PYRAMID PARK.

1, 2, 3, 5. Scenes Along Little Missouri River. 4. Watch Dog Rock.



ROCKY MOUNTAINS AND WEST.

1. Approaching Summit of the Rockies. 2. Crossing Clark Fork. 3. Drum Lummon Mine.
4. Entrance to Horse Plains Valley. 5. Missoula.

cuts; while pointing skyward, almost in the very skies indeed, often hidden by fleecy clouds, are the summits and peaks of the Rockies.

The ride from the mountain pass to Missoula is a rapid and an exhilarating one. First, the Little Blackfoot River valley affords the means of working clear of the mountains, then come the Deer Lodge and Hell Gate, the same river under different names. For more than one hundred miles after emerging from the gloom of the Mullan Tunnel to the stoppage of the train at Missoula the scenery is of a dissolving character. The wide, valleys are suddenly succeeded by narrow cañons, these again by open spots. Then we rush along at the base of savage, towering cliffs, black and honeycombed by age. At some places the forest sweeps down to the river's edge, again it is supplanted by magnificent slopes of mountain grasses. And the flowers! Where were wild flowers ever so beautiful, so luxuriant, as in the mountains? Wild roses, red and pink, lined the embankment and peeped out from the ravines. Clarkia in immense masses faintly tinged the distant slopes, or swept in riotous red waves over the fields and hills nearer by. Red-eyed Susans were climbing the mountains and nodding in the valleys, their yellow hues being a conspicuous feature of the landscape. A purple flower, omnipresent in thick patches, called by many a blue-bell, but very unlike the blue-bell of the East, was unusually affective in floral combination.

Now the train sweeps out from the Hell Gate Cañon, away from the sudden, sharp curves; away from the frowning rocks and dark pine-clothed slopes. Debouching into the foot of the Bitter Root Valley, one of the finest in Montana, and racing by Jumbo, the elephant mountain, it stops at Missoula — a fine city in an attractive location. Up the valley, its gulches still filled with snow, hangs Lolo Peak. Off to the west, piercing the sky, is a perfect mountain nipple, Mount Missoula, also snow-frosted. Behind us the mountains roll back in two ridges, the nearer and lower one grass-covered, but with scarcely a tree to be seen, the farther and higher one, black with pines and firs, with rounded summits here, and high, rocky, craggy edges elsewhere.

From Missoula the railroad again ascends the Rockies, then sweeping down into the Jocko Valley, finds its way to the Clark Fork of the Columbia River. Skirting this it at last comes out upon the shores of a most charming lake, Pend d'Oreille, an expansion of the river. The view across this sheet of water from Hope, the glistening lake in the foreground, high, rugged, hazy mountains in the distance, is one to cause a pang of regret to many travelers, that they may not stop and become better acquainted with the slumbrous little sea.

CŒUR D'ALÉNE MOUNTAINS, INDIANS, AND LAKE.

At the extreme northern end of the Bitter Root Range, the local name, is the Cœur d'Aléne. In the heart of these mountains flows a river — if it can be said to flow, so sluggish is it — and reposes a lake, as lazy and tranquil as the mountains are savage and forbidding. Lake and river are also yclept Cœur d'Aléne. Such an admirable spot as this for concealment, for living unmolested by outside enemies in aboriginal days, could hardly pass unnoticed, neither did it. Here, from early days, long before the white man — even the old Jesuit priests who early found their way in here — climbed the hills and pushed through the cañons, a tribe of Indians, likewise bearing the name that attached to river, mountains, and lake, have lived.

Whether the Indians took their name from the mountains or the lake, or the mountains were known from the lake or the Indians, or the lake from the Indians or mountains, I know not. The Indians are referred to in early writings as if the name — Heart of an Awl, or Awl or Pointed Heart Indians — related to themselves. If this be true, the name by which we know them probably sprang from the tribe, and was afterward affixed to the neighboring topography.

That which for half a century has made men wanderers on the face of this part of the earth; that in one night has made men princes in wealth, and again in another made them paupers; that which has been productive of a style of fashionable gambling in the West, in which men, women, and children have been drawn into the toils, and which in places once raged with a fury certainly unknown elsewhere in this land — was found as it were in "the heart of the awl" indeed, and men trudged into the gulches from all directions, to extract from this heart the gold and silver that had been discovered.

And so it came that the railroad followed the prospector, for wherever a prospector can climb, there also will the iron-horse follow if there be really found the argentiferous metal.

The railroad follows the left bank of the Missoula River, which, after receiving the Bitter Root River and several good-sized creeks near Missoula, becomes a very respectable stream, down to Iron Mountain. Here the Missoula cuts squarely across the mountains, and, combining with the Flathead, or Pend d'Oreille, River, forms the Clark Fork.

The railroad is built, for the most of the way, high above the river. About Frenchtown the valley is a fine one for agriculture, and is well occupied by ranchmen. Soon, however, the mountains draw close together, and the way is across parks where pine trees rise prim and straight, or at the foot of cliffs and bluffs. Below Frenchtown, Fish

Creek is crossed by a high bridge. Flowing forth from a wild, tangled gorge, this beautiful stream sends a thrill of enthusiasm through one, and if he be fond of angling for trout, the temptation to jump from the train then and there is hardly resisted.

It is after Iron Mountain is passed and we find ourselves ascending the St. Regis River, that we begin to see "nature's wild magnificence." This stream is one of those rapid, clear, frothy, mountain streams that we always associate with the fresh, vigorous character of the mountains. It goes scooting through tangled brakes, and whisking around bends of the mountains, independent and capricious, but always wooing and winning the love and admiration of the traveler.

As we get farther into the range, it rises higher above us, more black, more stern, more massive. As it closes in, and looms up grander and higher, the stream grows smaller. We are in the heart of God's mountains, in the pristine freshness of the rock-buttressed and rock-ribbed hills. Where man has as yet had little chance to inflict upon glorious nature the scars and mutilations of civilization, "the slings and arrows of [her] outrageous fortune." Naught save the evidences of the railroad itself, the long, narrow gash along the mountain's flank, now and then a water-tank or section-house, and the taut, solitary telegraph wire, is there to indicate that man has been here.

After long, hard climbing we are at the summit. As we turn a point of the mountain, a magnificent and unexpected sweep of mountain landscape is given us. Not a suspicion of a valley, a town is to be seen. High as we are, far higher rise the dominant old peaks, black with pines, cedars, and spruces to the topmost points. Between them are gulches, more open and unobstructed. In some of them, bright streamlets, cascades, merrily plunge down into the deeper gorges below. Roads and trails, old and dim, vie with the railroad in its turns about the mountains. Snow-spots are seen at some places at the higher elevations. As we whisk down the grade we can trace the railway winding in and out of the forest, marked by its embankments and excavations. At one point we see four lines of track, including the one we are whirling over, the lowest running far down the cañon miles away, and hundreds of feet below us.

Our pathway is simply an iron trail cleft through the trees and gouged out of the mountain's side. While the impression made by the height of the mountains, their great sweep, the wide extent of the forests, etc., is a lasting one, that, perhaps, which more than all else is borne in upon one is the deep solitude that broods over all. If the rolling train pause for an instant in its downward rush, this fact is specially emphasized.

At Wallace, one of the cutest little towns in the country, the day's journey ends. Here in a small, open, level spot, set down in the midst of towering slopes, is the principal town of the Cœur d'Aléne mining country. A good night's rest and the journey is continued, first, over a narrow gauge railroad to Mission, thence by steamer over the Cœur d'Aléne River and lake to Cœur d'Aléne City, where another train whirls one on to Spokane.

At Mission, the old Jesuit Mission to the Cœur d'Aléne Indians is seen. An imposing wooden structure, now in disuse, it speaks mutely but eloquently of that time in the '40's, and subsequently, when this spot was the seat of spiritual instruction for the red brethren of the mountains.

The steamboat ride is rather an unusual experience for the transcontinental traveler, and it is as pleasurable an innovation as it is novel. A good steamer, well officered; a river deep and narrow, so narrow that the bushes lining its banks can almost be touched at times; a broad lake from which the hills run up at all angles into higher mountains, and the entire steamer trip of fifty miles and more, affording considerable diversity of scenery, cause it to be a pleasing contrast, and a restful one, to the beginning of the passage of the Cœur d'Alénes.

ON TO THE COAST.

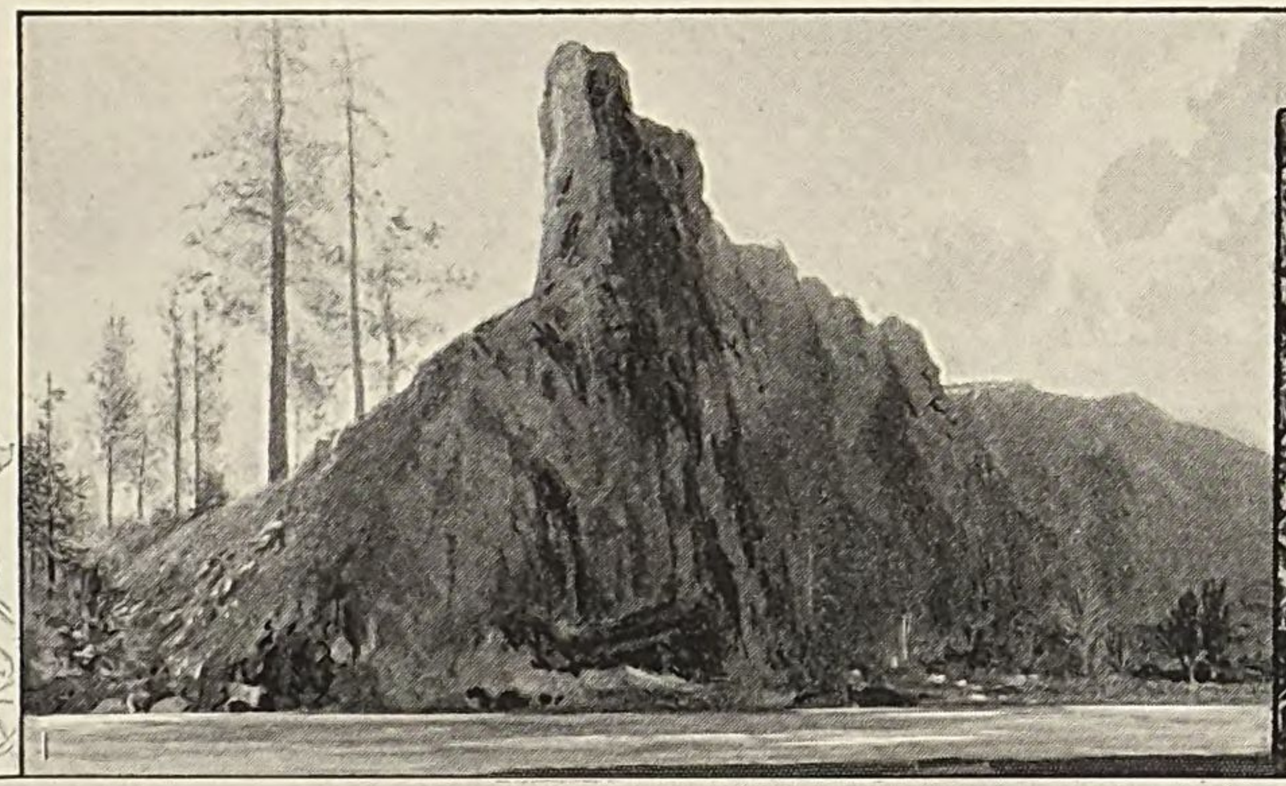
Spokane is the great city of Eastern Washington. It is as well a handsome city, and no one will be surprised that its inhabitants feel that it is just about right as a place of residence. It combines many advantages of location, scenery, and climate. To the east lies the Cœur d'Aléne country, to the north the Kootenai, westward the Big Bend, and southward the Palouse region, all contributing to its prosperity and importance.

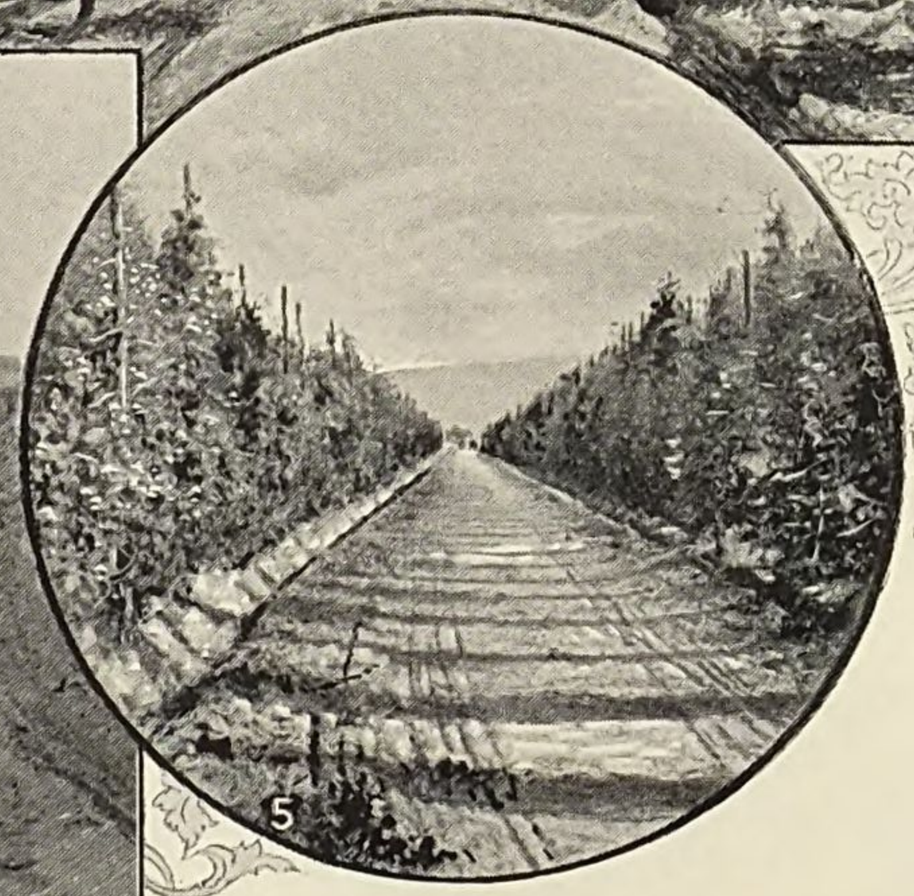
From Spokane the railroad extends southward to the Columbia River, crossing which it traverses the famous Yakima Valley, an irrigation region that is bound to exhibit the most startling phenomena of growth and settlement of any similar district in the West. Until recently a desert of sand, it is rapidly being transformed into the finest garden spot and orchard known to the West. Irrigation is doing it. Kennewick, Prosser, North Yakima, and Ellensburg are the centers from which to inspect this valley.

The wonderful transformations effected in recent years, in all parts of the West, by the turning of water upon hitherto sterile deserts, have not ceased to be a wonder, especially to those living in the eastern portion of our country. It has resulted in producing a distinct class of literature, of investments, of farming, of engineering. The desert has become the

IN FLATHEAD AND COEUR D'ALÉNE COUNTRY.

1. Along the Missoula River. 2. St. Regis River. 3. Mission Range. 4. On St. Regis River.
5. Pumpelly Cañon — McDonald Peak — Mission Range.





SCENES IN AND AROUND YAKIMA VALLEY.

1. Salmon Rock, Yakima Cañon. 2. Orchard, Yakima. 3. Yakima Country.
4. Head of Irrigating Canal, Yakima Valley. 5. Hop Yard, Yakima.

garden; the worthless become the valuable; the unsightly become the sightly. In no region is this fact in process of being more fully proved than in this valley. With a larger river than can be entirely utilized, a soil of wonderful fecundity, and a climate mild and healthful, the conditions for successful irrigation farming are found and being used. Large irrigation canals have been completed, and sage-brush has given way to fine orchards, alfalfa fields, hop yards, and potato fields of vast extent. The transition is startling.

Three large cities on the Pacific Coast are touched by the Northern Pacific Railroad — Portland, Tacoma, Seattle. Portland is on the Willamette River in Oregon, a few miles from the junction of the latter with the Columbia. This makes of it a seaport, and it carries on an extended foreign commerce. It is a city of hills, and from vantage points one can look forth upon some magnificent mountain scenery. On clear days Mount Hood, 11,225 feet high, Mount St. Helens, and other fine peaks of the Cascades are in plain sight.

Tacoma is at the extreme southeast of Puget Sound, and is also a deep seaport. Being the youngest city on the sound it yields to none of them in beauty of location and plan. It is a favorite city with tourists, and will be still more so when the magnificent Olympian hotel now being erected is finished. From Tacoma the steamers that make the trip to Alaska take their departure. The Northern Pacific Steamship Company has a line of good steamers between Tacoma and Yokohama, Japan, and Hong Kong, China. It is strictly an American line.

A trip to the Flowery Kingdom, the land of the brave and plucky Japs, ought soon to become as popular, nearly, as a trip to Europe. Added to a tour of the Yellowstone Park, this trip should form a summer's outing for the tourist that would make it a profitable one.

Seattle, another tidewater port, is a great jobbing center, as its large wholesale blocks show at a glance. Back of the bay and over the hills lies Lake Washington, a beautiful sheet of water and most conveniently located for an hour's or a day's pleasure. Like Portland and Tacoma, Seattle has a large ocean commerce. It has a fine harbor which it is proposed to connect by a canal with Lake Washington to provide a fresh-water harbor.

Olympia, between Tacoma and Portland, and Port Townsend and Victoria on the sound, are other cities of importance. An excursion by the steamer City of Kingston, to Port Townsend, Victoria, and return is worthy the tourist's attention.

YELLOWSTONE PARK.

WHERE can I go — what can I see that is new to me — where can I have the most fun and pleasure — get the best fishing — where can I see and learn the most in my vacation — or to concentrate it, as Armour concentrates the eatable parts of a bullock into a small vessel of "extract of beef" — where can I take an outing and get the most, in pleasure and profit, for the smallest expenditure of money in a short time? This is, perhaps, about the way that the busy business man, employer and employe, mentally phrases it when the period of release from the carking cares and pressure of business approaches, and rest, recreation and surcease from worry casts its faint horoscope about him.

A business man's vacation is a mighty important part of his life. For the average employe — and many an employer, too — two weeks is about the sum total of it. Into that time — one twenty-sixth of a year — think of it — he crowds about all there is of outside enjoyment, outside pleasure, contact with the outside world, that he gets. It is like getting out of his shell, out of himself and being some one else. In that time, too, he spends more money, proportionately, than during any similar period of the year. No wonder that he broods over his outing, scratches his head and wonders where in creation to go.

The Yellowstone Park is a little more than 1,000 miles from St. Paul. It is about sixty-two miles long, fifty-four miles wide, and of an average elevation above the sea of between 7,000 and 8,000 feet. The mountains in and about it rise to over 11,000 feet, and outside the park limits to the south far higher.

Open a good geography of this region and observe an unusual and peculiar feature of this locality. It is the most interesting watershed to be found probably within the bounds of our country. Upon the western side and in the northwestern corner of the park itself, are the creeks,

springs, and rivulets which, coming together, a roystering, merry company, form the Madison and Gallatin rivers, which, with the Jefferson, a little farther west, make the mighty Missouri, which in large part forms the Mississippi, which flows to the Gulf of Mexico. In the eastern part of the park proper are the headwaters of the incomparable Yellowstone River, which, after many hundreds of miles of an independent existence, joins its fortunes to the Missouri.

To the south and west other streams form another large river, the Snake, which, after flowing to nearly all directions of the compass, concludes to seek the great Columbia and the North Pacific Ocean.

East of the Yellowstone River is the Big Horn. Drawing its life from the peaks south of the park boundary, and flowing north for many miles an independent stream, it finally empties into the Yellowstone and Missouri.

Strangest of all, however, to the south, and farthest from the park boundary lines, but still related to the locality, out from the gloomy gulches on the western and southern flanks of the Wind River peaks, goes a river, the Green, which flows far away southward and forms the principal affluent of the great Colorado. For hundreds upon hundreds of miles it flows through the wonderland of the Southwest from the wonderland of the Northwest, through the most wonderful and beautiful cañon-land known, until lost in the Gulf of California — the South Pacific. Could anything be more interesting? Born almost within sight of each other, these many streams lose themselves in three mighty rivers that seek old ocean's heaving bosom thousands of miles from each other.

Some day this region will be one of a few natural zoölogical gardens in our country. Animals, like human beings, know a good thing when they find it. The animal life here is on the increase. This will in time be a great retreat, a haven of refuge, for beasts and birds. When gone, elsewhere, the bear and deer, the elk and antelope, the mountain-lion and buffalo, the mountain-sheep and goat, to say nothing of lesser animals, will be found here, and wonderfully docile and tame. Allowed to wander at will, and preserved from molestation, not only do they increase in number, but they become noticeably less savage in nature. Even now the appearance of bears about the hotels at night is one of the rich experiences to the park tourist. From one to half a dozen, they come at dusk from the depths of the forest to search the barrels of refuse from the kitchens, and the guests troop out, men, women and children, to watch Bruin — and Bruin watches them. He seems to enjoy the picnic as much as they, and, his hunger appeased, goes rolling away into the darkness. In the spring of 1892

over sixty buffalo calves were counted in the park, and there are probably within its limits now, 200 buffalo.

The forests of the land of the free and the home of the brave are fast disappearing. The tiller of the soil of a prairie country knows what this means, and is trying to remedy it by planting groves where nature never placed them.

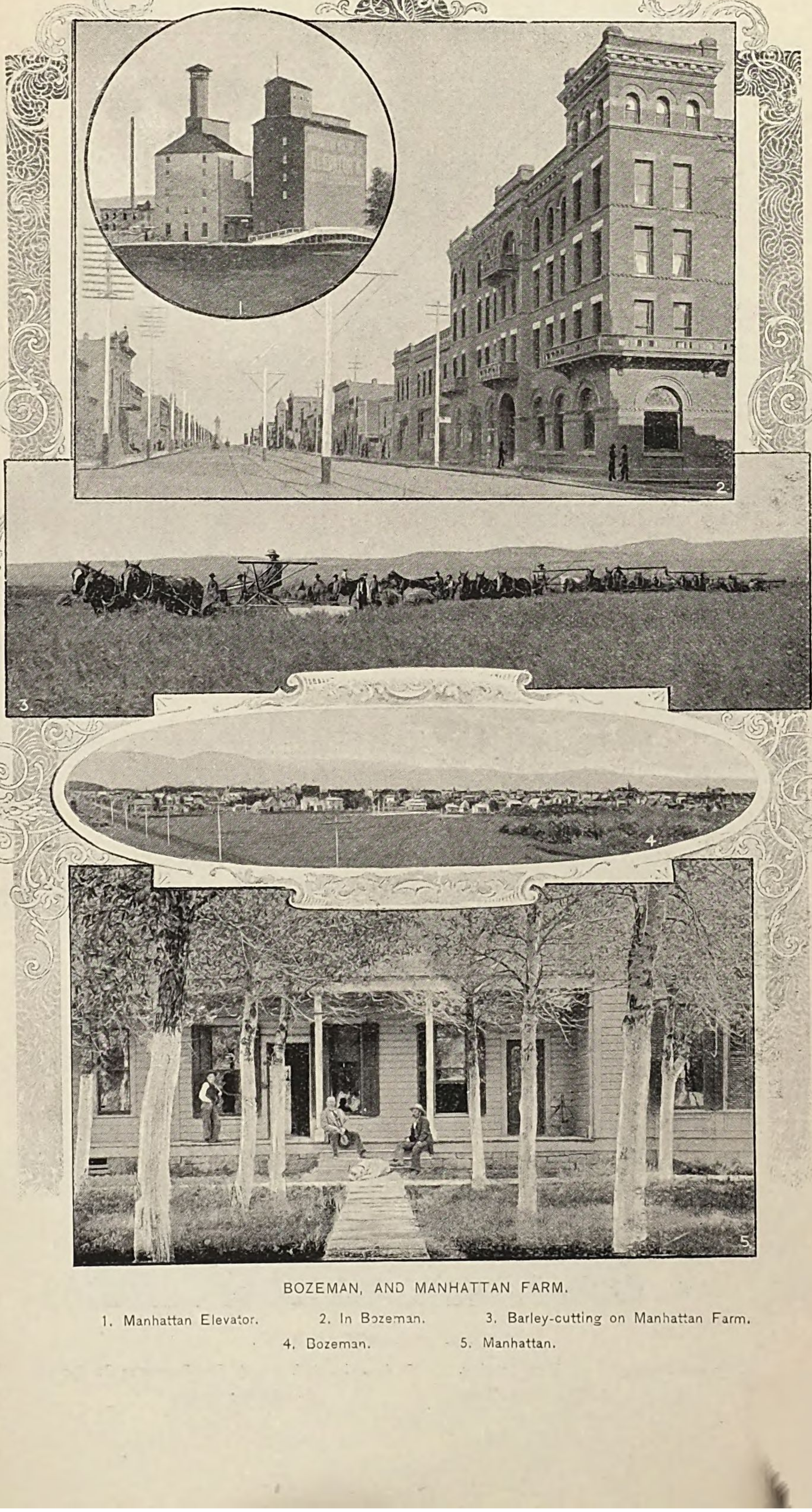
In the confines of this parkland, and in the grand mountain country adjacent, are still to be seen some of the finest specimens of forestied mountains in the West. In places the ravages of fire in years gone by are seen, but immunity from this scourge for many years, added to the care exercised to prevent it, renders the hope a strong one that here will be preserved to future generations a timber preserve worthy the name. If this proves true, the noble forests hereabout will in future years vie with the other and unique wonders of creation in attractive interest to the tourist. In all justice and propriety the park proper ought to be extended far beyond even the present limits of the Forest Reserve. There is much wild, rugged, and grand country, with commanding peaks, winding cañons, and dashing streams fit to be added to the present park, and covered with the same vast expanse of trees. By preserving the trees the water supply of the region is also preserved, and without this, one great element of beauty is gone. Again, the lack of moisture here, from snow-banks, will cause a wonderful change in the vegetation of the region. Let those who love God's groves and rejoice to see standing timber in all its richness of growth and garb, never cease to pray that some day, before it be too late, the size of this park may be largely augmented.

A BIT OF HISTORY.

Who first suggested the segregation of the region now known as the Yellowstone National Park?

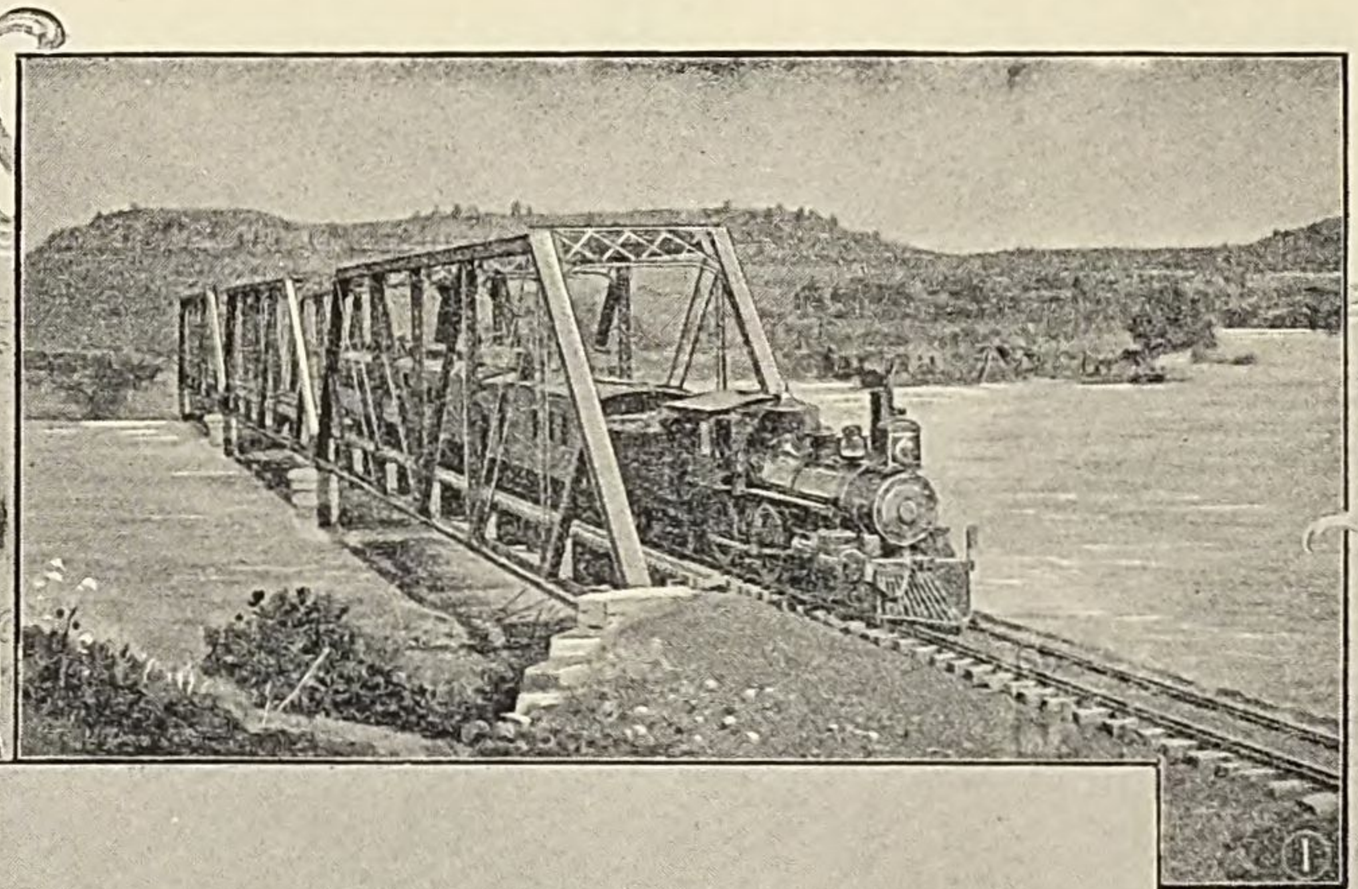
This is an interesting question, and, with one or two others, the writer has been endeavoring to get at the truth. He gives here, in brief, some of the results of this research. No claim is made that the subject has been exhausted, and any information or suggestions will be thankfully received.

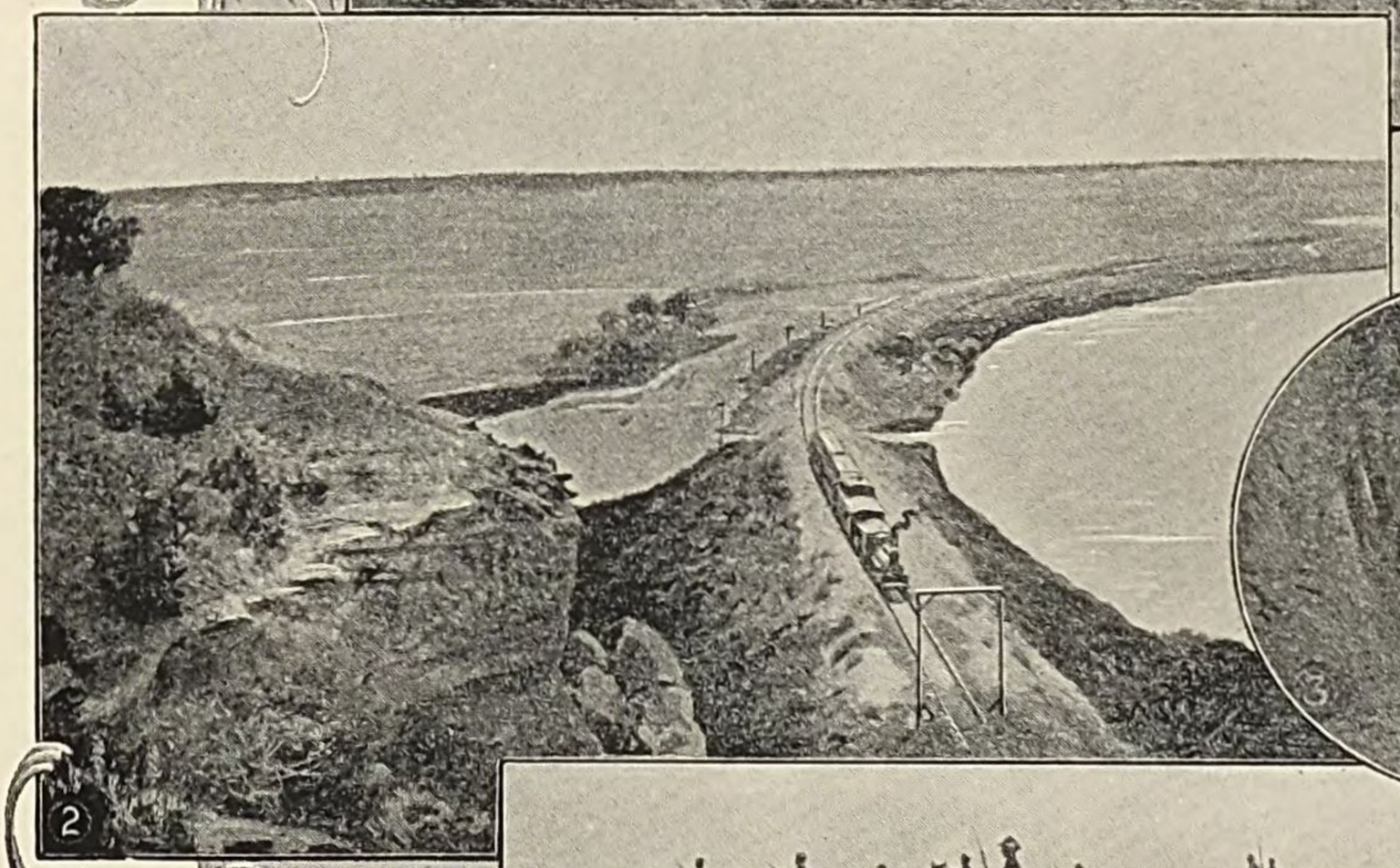
That the wonders of the park country were known to mountaineers, trappers, etc., from Colter's day, in 1810, down to 1870, seems undoubted. Even as far back as August 13, 1842, the *Wasp*, a Mormon newspaper published at Nauvoo, Ill., before these people had settled in Utah, contained a fine description of a visit to the geysers made in 1833 by a gentleman unknown. Who was he? Can any one give a clue to his identity?

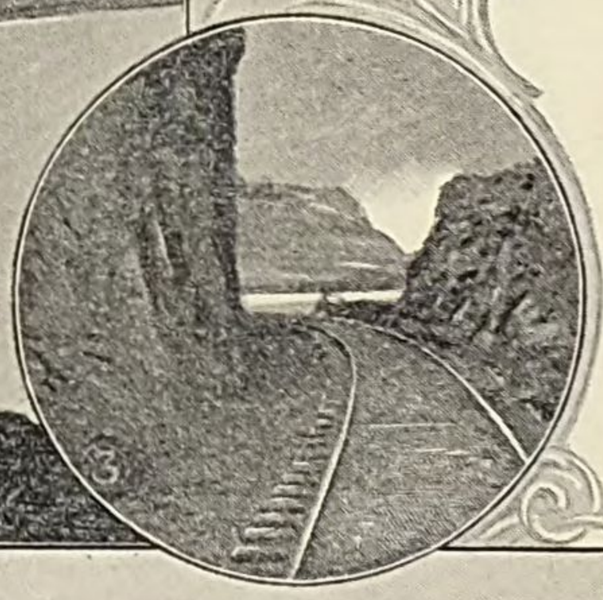


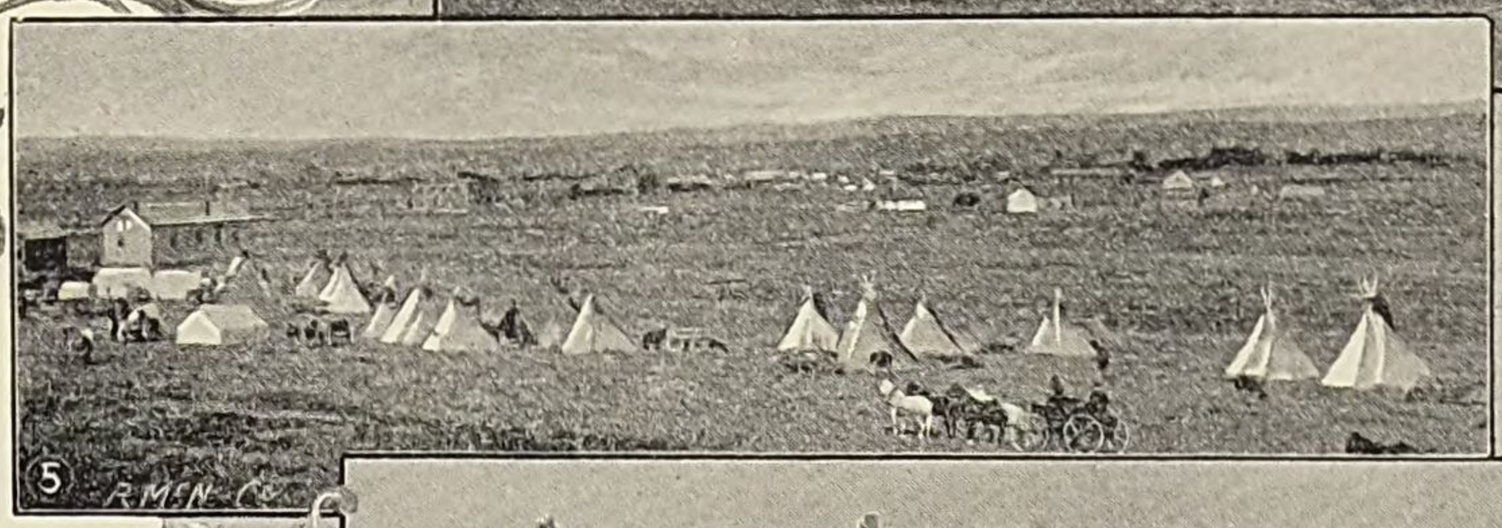
BOZEMAN, AND MANHATTAN FARM.

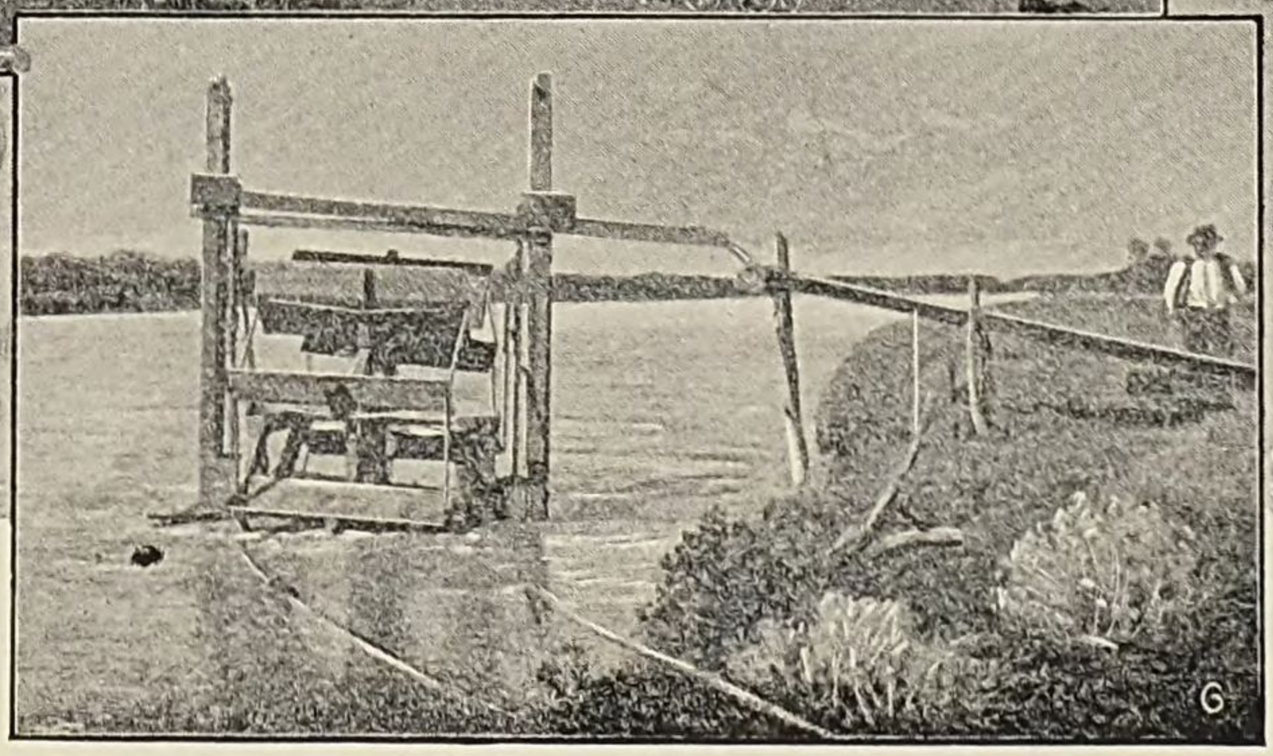
1. Manhattan Elevator. 2. In Bozeman. 3. Barley-cutting on Manhattan Farm.
4. Bozeman. 5. Manhattan.











ALONG THE YELLOWSTONE RIVER.

1. Billings Bridge. 2. Terry Landing. 3. Around a Bluff. 4. The Paymaster, Ft. Custer.
5. Crow Indian Mission. 6. Irrigating Wheel.

It would appear that not until about 1870 were any suggestions made toward holding the country for a universal pleasure-ground. In 1871 and 1872 Dr. F. V. Hayden, then in charge of a United States Geological and Geographical Survey, explored and surveyed — topographically and geologically — this region. In 1872 the act establishing the park was passed. This act was printed in Hayden's report (made in 1872) of his 1871 expedition, but *neither in this nor the report for the succeeding year* does there seem to be any intimation regarding who first suggested the idea. For 1878 Doctor Hayden made another and more elaborate report, *written in 1883*, in which occur these words: "So far as is now known, the idea of setting apart a large tract about the sources of the Yellowstone River as a national park, *originated with the writer*." (The italics are mine.) This is a singular statement for Doctor Hayden to have made. In the "Encyclopædia Britannica," under the heading "Yellowstone National Park," Mr. Henry Gannett, who was one of Hayden's topographers, writes as follows: "The discoveries made by this (the Washburn) party induced Dr. F. V. Hayden, then in charge of a Government survey, to turn his explorations in this direction." Who, then, were the Washburn party, through whose reports Hayden was influenced to entirely change his plans for 1871 et seq.?

In August, 1870, this party, comprising, among others, H. D. Washburn, surveyor-general of Montana; N. P. Langford, T. C. Everts, Samuel T. Hauser, afterward Governor of Montana, and many others, prominent citizens of Montana, and accompanied by Lieut. G. C. Doane, with a small escort of cavalry, spent more than a month in exploring this region. In November, 1870, Langford went east to lecture upon the subject. On the evening of January 19, 1871, he delivered his lecture in Washington, D. C., and on the evening of January 21st at Cooper Institute, New York City. At his Washington lecture Speaker James G. Blaine presided, and Dr. F. V. Hayden was one of the audience. In each of these lectures *Langford advocated the setting aside of the region as a national park*, and his lecture undoubtedly was a potent factor in Hayden's change of plan. At any rate, the idea was thus publicly promulgated months before Doctor Hayden started west, and in the city of his own residence, too.

From the lips of one to whom Doctor Hayden made the statement, I have recently learned that he said, later in life, that when, during the field season of 1871, the idea of making a park of the Yellowstone region was advocated among his own men, he did not take kindly to it, and did not believe in it. The discussions and his reflections upon the subject convinced him later on that it was the proper thing to do.

Mr. Langford insists that Hon. Cornelius Hedges of Montana, one of

the Washburn party, was the first man now known to *publicly* suggest the park scheme, and thus recounts the occasion:

Cornelius Hedges of Helena wrote the first articles ever published, urging the withdrawal of this region from private occupancy and dedicating it to the public as a park. I distinctly recall the place and the occasion when he first broached the subject to the members of our party. It was in the first camp we made after leaving the Lower Geyser Basin. We were seated round the camp-fire, and one of our number suggested that a quarter-section of land opposite the Great Falls of the Yellowstone would be a source of profit to its owner. Another member of the party thought that the Upper Geyser Basin would furnish greater attractions for pleasure-seekers. Mr. Hedges then said that there ought to be no private ownership of any portion of that region, but that the whole of it ought to be set apart as a great national park. The suggestion met with a quick and favorable response from all the members of the party, and, to quote from a recent letter of Mr. Hedges to me, "the idea found favor with all, and from that time we never lost sight of it." On our return Mr. Hedges advocated the project in the public press. I have now in my possession a copy of the Helena *Herald* of November 9, 1870, containing a letter of Mr. Hedges, in which he advocated the scheme; and in my lectures delivered in Washington and New York in January, 1871, I directed attention to Mr. Hedges' suggestions, and urged the passage by Congress of an act setting apart that region as a public park. All this was several months prior to any Government exploration.

David E. Folsom of Montana, who with C. W. Cook, traversed the region in 1869, *privately* suggested the park idea to General Washburn prior to the start of his expedition in 1870. During the above discussion described by Mr. Langford, near the Lower Geyser Basin, *General Washburn stated this fact to Mr. Langford.*

Wm. H. Clagett was elected a delegate to Congress from Montana in 1871. Mr. Clagett states that in the autumn of 1870 or spring of 1871, he ascertained that two men, Norton and Brown, purposed fencing in a tract of land that should include the principal geysers. He remonstrated with them, and insisted that such a region as this was reported to be by the Washburn party "should be made into a national park, and no private proprietorship be allowed." After Clagett's election to Congress, Langford, Hedges, and himself consulted, and agreed to make every effort to establish the park at once.

Clagett says that he *drew the bill* to establish the park, Doctor Hayden furnishing him later on with the necessary description of the boundaries. He introduced it in the House, and then hurried to the Senate chamber and handed a copy of it to Senator Pomeroy of Kansas, who immediately introduced it in the Senate. The latter body passed the bill first, and strangely enough when the bill passed the House, Clagett happened to be absent and thus had no opportunity to vote for it.

Langford and Hayden worked hard for the scheme, and Clagett, Pomeroy, Ben Wade, Dunnell, and Dawes, in Congress, actively pushed it, and

Speaker Blaine's influence was strongly in favor of it. The measure passed both Houses with practically no opposition.

This is believed to be a true statement of the inception and carrying out of the park idea. Doctor Hayden, while eventually doing yeoman work for it, evidently did not originate it. It is probable that, to most thoughtful persons, the idea of making a national pleasure-ground of this region would naturally present itself after a tour of it, and it is not improbable that the thought came to others at about the same time as to those named, or perhaps even before, and that no public record was made of it. Quien Sabe?

THE PARK TOUR.

There are six points in the park where the character of the phenomena is such as to transcend, in importance and interest, the other physical features. Speaking musically, these might be termed the major intervals, the others the minor intervals, in the progressions of the park tour.

These places all differ from each other. Even the geyser basins themselves have scarcely anything in common. The least interesting is first seen, and each succeeding point is superior to what has been and inferior to what is to be. Like a college course where each year is preparatory to what follows, so here, each one of these important phenomena but prepares the way to something finer and better, and graduation day is reached when the tourist stands on the brink of the Grand Cañon of the Yellowstone and gazes in mute wonder and wrapt in admiration at the stupendous example of Nature's sculpturing and painting.

The traveler bound for the Yellowstone Park leaves the railroad at Cinnabar, the terminus of a branch line of the Northern Pacific Railroad, the only road leading directly to the park. From Cinnabar to Mammoth Hot Springs, the starting point for the tour proper, is seven miles, and at this point the stages, which are the mode of conveyance in the park, are taken.

MAMMOTH HOT SPRINGS.

We are fairly within this great wonderland at last. As we step from the stagecoach after our short ride from Cinnabar, and stand on the hotel veranda, we almost unconsciously glance about us and make a mental inventory of what we see. Across the plaza are the neat quarters of the soldiers. Away beyond, across the Gardiner River, alongside whose purling waters we have but just been riding, long and low, stretches Mount Everts of tragic renown. Off to the right rises Bunsen Peak some miles to the south. Right at hand, also to the right of us, climbing the slopes of Terrace Mountain — well, did you ever! What *in* the world is it anyhow? Of all things under, above, or on the earth,

I never saw anything like that. And here in the midst of it all, set down in the heart of the mountains, a thousand miles from anywhere, is a mammoth hotel, hundreds of feet long, with gables and peaks and towers, and a wide veranda running the entire length of it, just as if it was Saratoga, Niagara, or Mount Desert. Must be dreamland as well as wonderland!

After lunch we start out with a guide, and follow a broad walk straight toward that strange odd hill or cliff. Some one says something about Mammoth Hot Springs, but I can not see any springs. Only a weird, fantastic hill or series of small terraces, showing nearly the whole gamut of colors from the blackest of black to the most dazzling white. I said I never saw anything like it—no, and I will say further, you *can not* see anything like it *anywhere else.*

We slowly climb the trail that winds over the white, chalk-like slope. Now we reach the top of the first shelf or terrace. Couldn't see any springs, did I say? Well, I can see them now, here, there, everywhere. And such springs! I wonder if God's angels haven't come down and troubled these waters as long centuries ago they did the pool of Bethesda. Surely it must be, for such crystal clearness, such marvelous and delicate colors as we see must come from the touch of an angel's wand.

And what a spell surrounds us, as with childish eagerness and delight we clamber higher up, among the grottoed cliffs and around these jeweled pools, each one brimming o'er with rainbows. We peer down into the blackness of the Devil's Kitchen, or the more pleasant Cupid's Cave; tramp over the Elephant's Back, where the steam and boiling waters ooze out from his backbone; step daintily among the myriad streamlets that trickle from the pools, and so on until the end of the chapter.

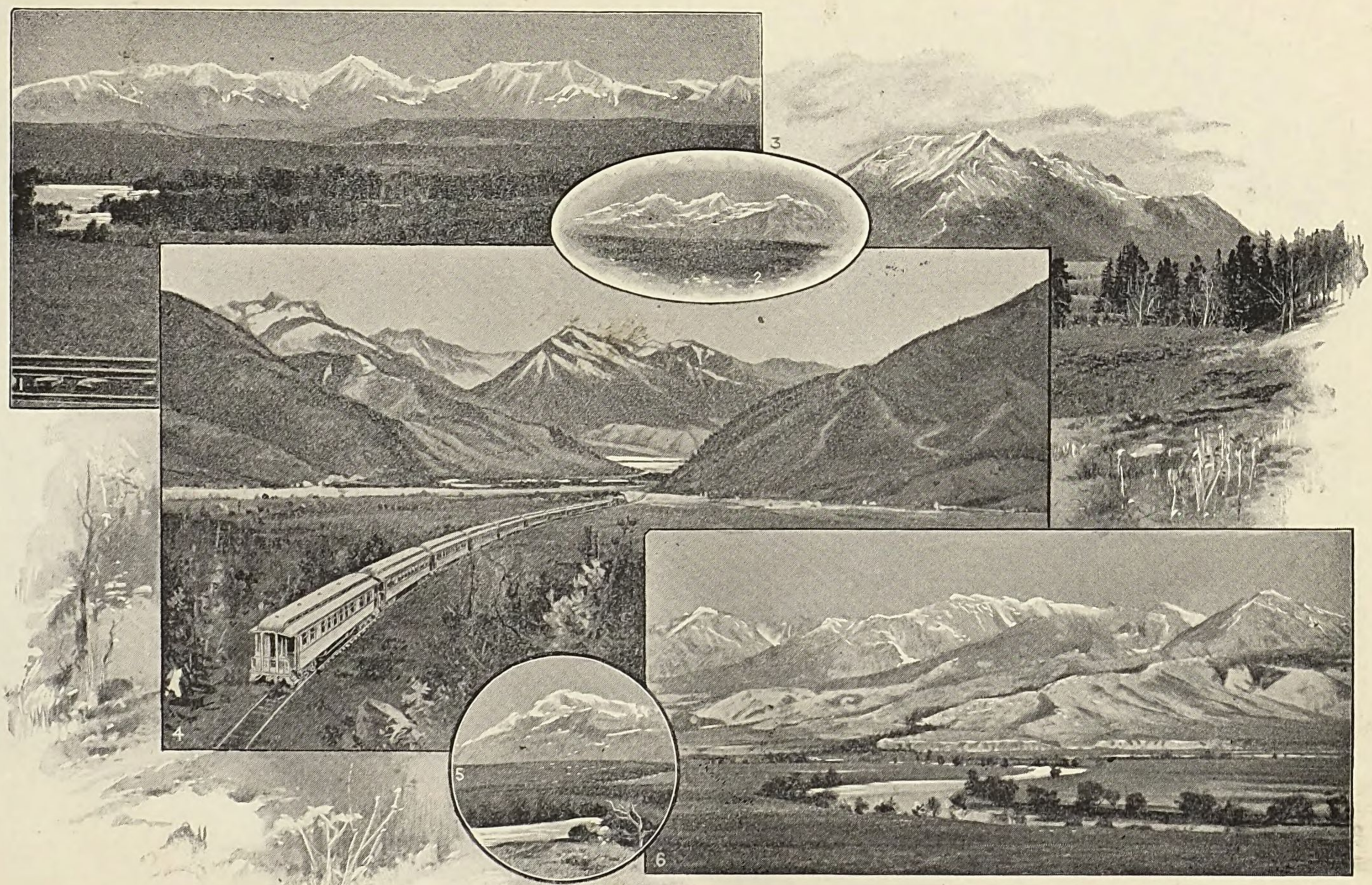
As we turn from one of these beautiful creations, another even more beautiful breaks upon the sight. We forget fatigue, hunger, everything save that we are in fairyland. We stumble upon Bath Lake, a deep, clear lakelet in a little basin amid the trees. What a place for a bath, indeed! Diana never had a better. We are tempted to return at night and see if, in the moonlight, the mountain nymphs do not come here to bathe and disport themselves sure enough.

ON THE ROAD.

A night's rest, breakfast, and a line of stages is waiting at the steps of the hotel to start us on our 150-mile ride through the park. Perhaps you would like to know what sort of vehicle it is that cuts so important a figure in the comfort or discomfort of this tour. Well, it is a regular wonderland stage. The old-fashioned stage, red painted, high in the air, short,

THE ROUND UP, YELLOWSTONE VALLEY.

1. Typical Cow Boy. 2. Branding. 3. Cow Boys.
4. Herding. 5. Cattle Ranch.



MOUNTAIN SCENERY ALONG THE NORTHERN PACIFIC.

1. Crazy Mountains. 2. Quadrant Mountain. 3. Electric Peak. 4. Gate of the Mountains. 5. Bell Peak.
6. Absaroka Range, Paradise Valley.

stuffy?—no, it *isn't* that sort at all. It is painted in yellow, is long, low, easy to get in and out of, with plenty of room, and the sides as open as possible to afford opportunity to see the landscape as we roll along. It is like the old style of coach *only* in that it is drawn by four horses, and mounted on the old-fashioned leather thorough braces, that give it an easy, rolling motion. Heavy canvas curtains are rolled up at the sides, to be drawn in case of storm and rain.

The stages carry from three to eleven, including the driver's seat outside. Parties congenial to each other, in accordance with these numbers, will be placed in the same coach whenever possible, and as thus placed, and the ride begun, so it continues for the entire circuit of the park. The same stage, driver, horses, and passengers that leave this hotel, remain together for the trip, and drive up to these same steps at the end.

And now we are off. Slowly, for several miles, for the road leads upward. Past the beautiful terraces we yesterday climbed over, past hill-sides growing the biggest crops of the biggest rocks, any one of which looks as if it was a "rock of ages," we ride and turn into Golden Gate.

This is a place that—but I won't tell about it, for I haven't space to write of everything, and besides, if you want to know about it very badly, it is worth going there to see for yourself.

After Golden Gate we ride through grassy valleys, thick groves of trees, by little lakes, and cross cold mountain brooks. We then come to Obsidian Cliff, a mountain of glass forged in Nature's furnace, and then reach lunch station at Norris Geyser Basin.

If I was amazed at Mammoth at the strange and beautiful wonders of those tinted springs and pools, I am surprised now at the utter desolation I see.

A naked plain as void of vegetation as the ordinary politician of candor. Its very ugliness is its attraction.

And such a conglomeration of sounds! One could imagine that a whole herd of bulls of Bashan were flying in crazy stampede. But it is only the "grumble and rumble and roar" of the sportive geyser, whose vapory columns we see ascending from all points of the desolate scene.

Slowly we saunter along the road, and watch the Black Growler blowing off steam, the Mud Geyser, a caldron whose muddy contents boil up at intervals, and Emerald Pool, a beautiful spring hidden among the trees, and other similar phenomena, until our stage comes along and picks us up.

GIBBON CAÑON.

Now for a ride that wakes up one's enthusiasm. Across the lovely Gibbon Meadows, and the road turns into Gibbon Cañon. A wild, craggy

defile, overhung by high walls and forests, leads into the heart of the mountainous region.

And as it twists and winds, so does our splendid road, following it in all its idiosyncrasies, until it leads us again into the light of the brighter day outside.

And by our side is a river — Gibbon River. A rushing, green, impetuous stream, full of the spirit of the mountains and cañon.

"This swiftly-flowing river,
This silver gliding river,
Whose springing willows shiver
In the sunset as of old.

"They shiver in the silence
Of the willow-clustered islands,
While the sun-bars and the sand-bars
Fill air and wave with gold."

As the cañon grows wilder, the river races along more madly. Rocks and boulders strew its bed, and islands rise in mid-stream. Over and around these it tears, scattering its spray o'er bush and tree, until it reaches the falls, where it tumbles down in a wide, silvery sheet over eighty feet into still gloomier depths.

Leaving this interesting spot, a long climb takes us up to the plateau above, and after a few miles more the Fountain Hotel, prettily ensconced among trees, receives us to its sheltering fold.

LOWER, MIDWAY, AND UPPER GEYSER BASINS.

From Hygeia Spring, at the junction of Firehole River and Nez Perce Creek, the northern end of Lower Geyser Basin, to Old Faithful Geyser, at the southern extremity of Upper Geyser Basin, is, on a meridian line, nine miles. Between these two points the world is distanced in phenomena of the geyser sort. Nothing to compare with it is known elsewhere. It is, for this reason, perhaps the most noted of all the spots found in the park.

And let it be plainly understood that the people of the United States do not appreciate what the possession of Yellowstone Park is to us. Europeans do. A prominent official of one of our great trunk lines of eastern railway, a man who was probably unusually well informed as to the park for one never having seen it, after a trip through it in 1894, wrote as follows:

> Upon our return from Alaska we visited the Yellowstone Park, and I have to suggest that enough has not been said, and enough can not be said, to properly sound its praises.

The coach transportation is first-class, the hotels are well managed and well kept, the roads are good, and it seems to me there is everything to draw tourists in that direction. I will not undertake to expatiate upon the wonders of the park. I have not sufficient command of the English language to do it properly.

The principal attractions at the Lower Basin are the Fountain Geyser, near and in plain view from the hotel, and the Paint Pots. The Fountain is one of the finest geysers in the park, plays frequently and very regularly. With the Fountain at the Lower Basin and Old Faithful at the Upper, both sure to be seen in eruption, and very different in character, visitors are sure of having an insight into the characteristics of these sportive creatures of the Plutonic world.

The Paint Pots are as unique as the geysers. They savor of witchland — but what, pray, is there hereabout that doesn't? We stand at the rims of these huge caldrons of mush — not oatmeal, nor yet cornmeal, but of clayey mush — and gaze in mute admiration at the pure colors, pale blue, terra cotta, drab, pink, cream, and their wonderful gradations, and their more than human delicacy. We hear the pop, pop, popping of this grewsome mass, as the steam-puffs burst in small, symmetric cones; we note the extreme fineness of the granulated clay, and then we reflect upon how many tens, hundreds, thousands of centuries, perhaps, this boiling has continued. We think of the tremendous furnace that supplies the heat and steam, and wonder if, during all this time, invisible spirits of the air with invisible sticks have carefully watched over it, occasionally stirring the pot as it needed. And as we thus stand wondering, marveling, with a rush and roar the Fountain breaks forth into full play, deluging the surrounding geyser-knoll with its crystal flood, and we realize the truth that:

> "There are more things in heaven and earth, Horatio,
> Than are dreamt of in your philosophy."

The Midway Basin is the abiding spot of Excelsior, the mightiest geyser in the world. It is only active at intervals of many years, but when the hour of its periodicity is come, it is transformed from a quiescent, heavenly-hued lakelet into a water demon of terror and awful majesty.

The Upper Basin is the playground of geysers. The large and the small, the funneled and the open, the regular and irregular are all here. Here are the baby Cub geyser with its frequent infantile sputterings and antics, and the great Giant that at intervals of days, and with a roar that causes the air to vibrate and the earth to quake, throws aloft a mass of water and steam to the height of 250 feet.

The trumpetings of these subterranean monsters bring to mind a herd of mammoth elephants, deep within a pool, spouting water and emitting grunts of joy and satisfaction.

THE PHILOSOPHY OF GEYSERS.

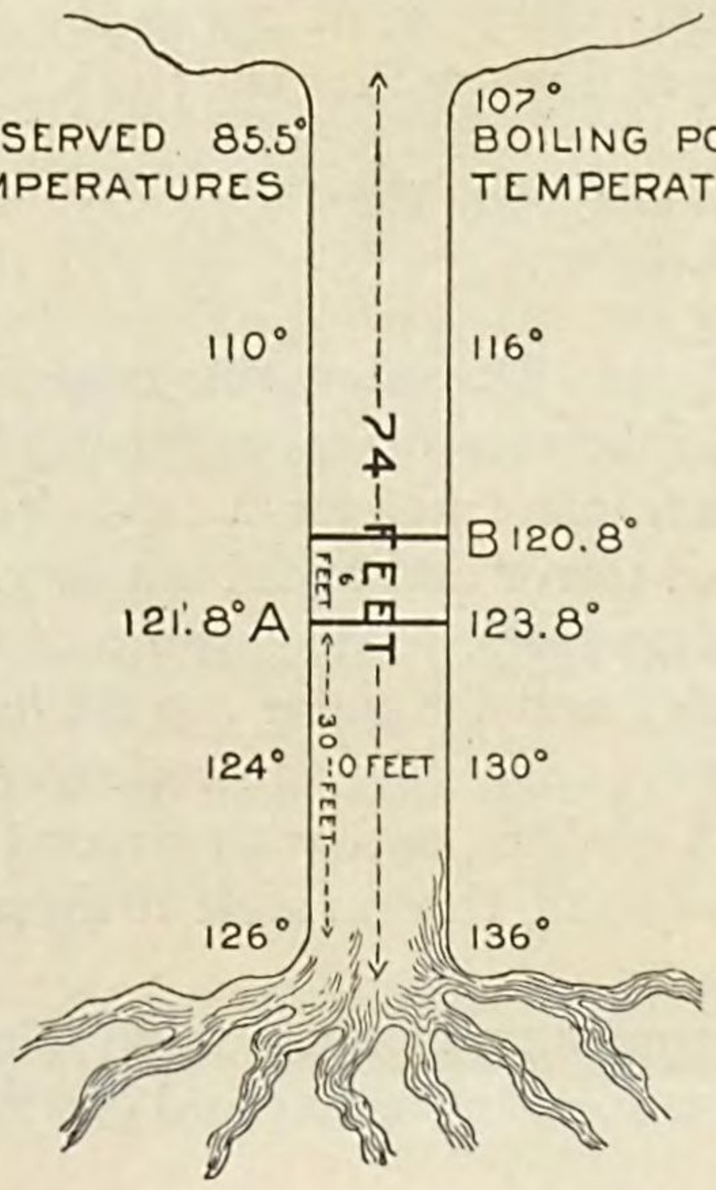
Geysers are found in volcanic regions. The three localities where they reach most perfect development are Iceland, New Zealand, and the Yellowstone Park. The park geysers are by all odds the finest. The word is an Icelandic one, *geysir*, meaning gusher, or rager.

The theory of geysers is an interesting one, though usually only partially and briefly stated.

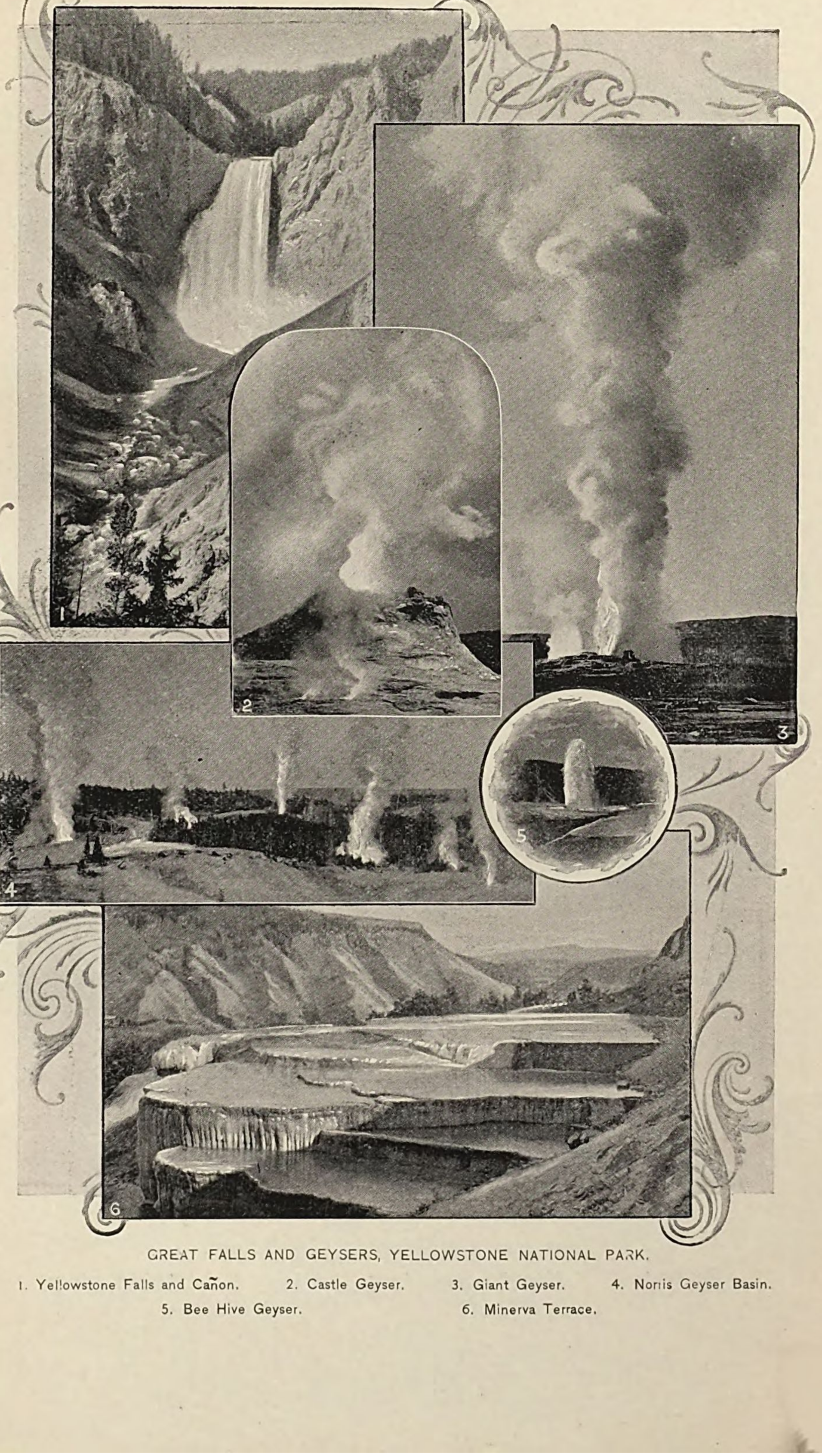
In 1811 Sir George Mackenzie suggested that the pipe or tube of every geyser was connected with a subterranean reservoir of hot water; that the temperature of the water was above boiling point, and the steam thus generated confined in a space above the surface of the water, as the steam in a boiler is confined in the dome above the water-line. Under certain conditions, this steam forced its way into the geyser pipe and ejected the water from it. While Mackenzie was not himself satisfied with his theory in all respects, he *did* suggest for the first time the proximate cause — the sudden evolution of steam.

Four principal factors enter into the geyser theory — the boiling point of water, the pressure of the atmosphere and of the column of water in the geyser tube, the actual temperature of this water, and the fact that steam is generated in underground reservoirs.

We have a geyser tube extending from the surface of the ground down perhaps 50, 500 feet, or even more, to subterranean channels or reservoirs of hot water. Now, knowing the boiling point of water at the surface, we can compute the boiling points at various depths within the tube, taking into consideration, of course, the pressure of the atmosphere, and also the pressure of the superincumbent column of water in the pipe.

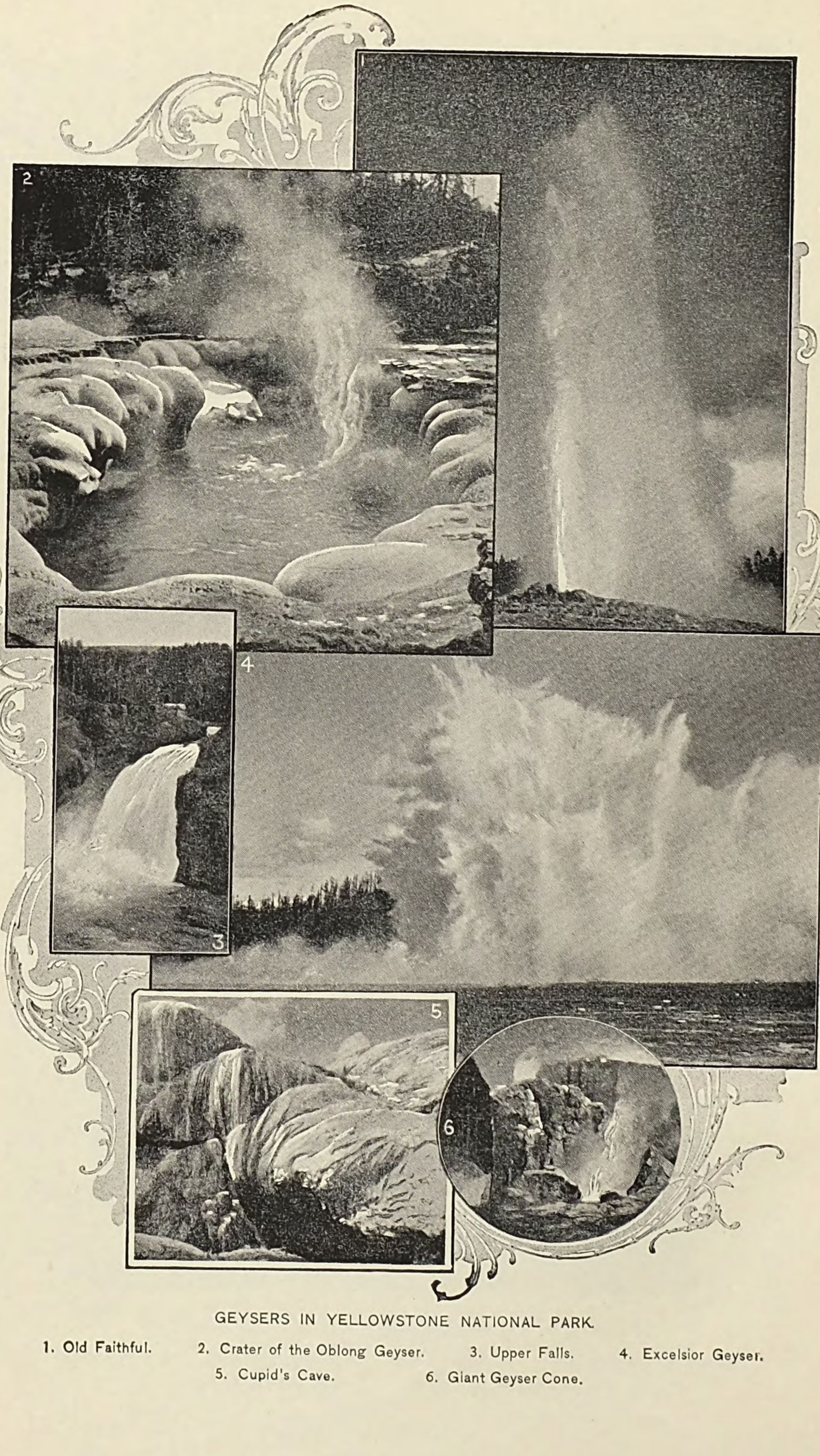


To illustrate this, I use a diagram given by Professor Tyndall in his lecture on the subject. This diagram is, for simplicity's sake, a straight geyser tube, a condition probably rarely met with in nature. Upon the right side are given the temperatures at which the water will boil at those particular depths, the tube being seventy-four feet long by ten feet in width.



GREAT FALLS AND GEYSERS, YELLOWSTONE NATIONAL PARK.

1. Yellowstone Falls and Cañon. 2. Castle Geyser. 3. Giant Geyser. 4. Norris Geyser Basin.
5. Bee Hive Geyser. 6. Minerva Terrace.



GEYSERS IN YELLOWSTONE NATIONAL PARK.

1. Old Faithful. 2. Crater of the Oblong Geyser. 3. Upper Falls. 4. Excelsior Geyser. 5. Cupid's Cave. 6. Giant Geyser Cone.

Now, after Mackenzie's suggestion, Robert, Descloiseaux, and Bunsen found that the temperature of the water in geyser pipes increased with the depth, which is also the case with the boiling points, *only in another ratio*, and they obtained specific results by actual tests. The figures at the left of the diagram give the actual temperatures obtained at the depths shown. The thermometric scale used is the centigrade, by Celsius, where water boils at sea-level at 100°. This scale is used in most scientific experiments. By observing the actual, or "observed temperatures," on the left side, and the corresponding "boiling temperatures" opposite, the differences between them will at once be noted. It will be seen that only at the points A and B do the two classes of temperatures closely approach each other; that is to say that at A, thirty feet from the bottom of the tube, the actual temperature of the water in the tube, as found by taking it, is 121.8°, while the temperature it must reach in order to boil *at that point*, is 123.8°. At B, six feet higher in the pipe, the boiling temperature is only 120.8°, so that *if the water at A* were only at B it would boil.

Geyser eruptions are immediately preceded by rumblings and detonations caused by the production of steam in the channels or ducts supplying the geyser tube, and which, working into the cooler water of the pipe, is condensed and produces the explosion.

Now, with the tube filled with water, steam escapes, as stated, into it from below, the whole column of water is violently lifted, and the water at A *now* reaches B. There is therefore an excess of heat necessary to make it boil. As Tyndall says, "This excess of heat is instantly applied to the generation of steam *at B;* the column is thus lifted higher, and the water below is further relieved. More steam is generated; from the middle downward the mass suddenly bursts into ebullition; the water above, mixed with steam clouds, is projected into the atmosphere, and we have the geyser eruption in all its grandeur."

Bunsen worked out this theory, and Tyndall illustrated and verified it by producing an artificial geyser.

The tube being emptied, immediately begins to refill. The rapidity of this process will depend upon several things. Prestwich suggests that, as the water flowing into the pipe is cooler than that which has been ejected, the temperature of the upper portion of the column is gradually raised by convection or circulation currents, and the lower portion is in the same manner kept below normal. After a time the convection currents cease, the water at the bottom rises above the boiling point there, is flashed into steam, and the eruption again occurs, and this is the process that is repeated over and over again.

It will be seen that the length of the geyser tube, the rate of percolation of the waters tributary to any geyser, and their quantity and tempera-

ture, affect necessarily the periods of eruption. Owing to variations in these essentials, Excelsior geyser erupts, therefore, at intervals of years, the Giantess after days, the Fountain every few hours, while Old Faithful, more favored, awakes from slumber promptly as the hour-glass is turned.

YELLOWSTONE LAKE.

In a large tent overlooking this interesting sheet of water, we refresh the inner man, and then stroll along the shore, where the esthetic part of our nature is ministered unto.

We watch the waters lazily roll up the sandy beach, and gaze out across them at the island in the distance and the long point of land that stretches well out toward, but can not quite reach, it. Then as we saunter along we are drawn to a strange feature of this lake of lakes. It is only another of the incongruous, inconsistent freaks found in this region.

See that small sinter cone with a clear pool of water within it, that just lifts itself above the surface of the lake?

Now watch this man coming from the lunch tent with fishing tackle in hand.

He springs lightly out upon the cone. Now he casts his hook into the lake. Only for a short time, though, for the trout swarm here and one is always ready to be fooled, so the man soon has his fish. Now watch him — no stringing him or throwing to shore — not a bit of it.

Fresh from the lake, dangling on the hook, he is quickly dropped into the pool within the cone whereon the fisherman stands, and presto! in a twinkling he is boiled and ready to eat.

You look paralyzed — don't understand it?

Why, only that the cone and spring are of the geyser family, and the water that issues from it is boiling, a hot spring bubbling up in a tube of its own though a cold lake.

This is true, and a fish story, too. Just back of this spot, on the banks higher up, are more of those dolly varden paint pots, if you care to see them.

The afternoon's ride is along the west shore of the inland sea, so that we have a fine opportunity to study this beautiful lake set as a jewel in the heart of the mountains. And how these grand old peaks love it! Not content with looking down into it, they push themselves down into it also, and feel daily, hourly, every ripple that agitates its surface, every heart throb that proceeds from its deep and tempestuous bosom.

And what a mirror it is for these same proud, august peaks.

Who would ever suspect such frivolous vanities existed among them?

See how they prink and plume themselves, each old giant trying to outshine the others. Ah! well — why should they not be allowed their harmless diversions and foibles as well as we? Let them look down into the grand and glorious mirror Nature has given them; in admiring themselves they only appear the grander to us and challenge our own admiration and love of the beautiful the more. So it is just as well.

The end of the day's drive leaves us at the Lake Hotel.

What a fine prospect — greensward and trees, then the lake for its entire length, and beyond and above, twenty miles away, rise the mountains that form a cordon around it.

Oh! beautiful lake, oh! grand old mountains, well wedded art thou.

HAYDEN VALLEY — THE GRAND CAÑON AND FALLS.

This valley was named in honor of Dr. F. V. Hayden.

Doctor Hayden was a man of nervous, excitable temperament.

In later life when the passions and ambitions of life had become cooled, and mellowed by age and physical infirmities, a visitor called to see him, and the subject of the Yellowstone Park came up.

Doctor Hayden remarked that when, after their explorations of this region, his name was given, not to one of the lofty mountains that rise within it, but to this valley, he was disappointed and felt a sorrowful regret. He had felt that he would like to see his name handed down to posterity as applied to one of the dominant peaks thereabout. He had, however, he said, changed his mind, and now in the evening of life felt that, after all, he preferred to have his name known in connection with the beautiful, quiet mountain valley to which it had been given, than attached to any peak. It may be added that his name is given to one of the great peaks of the Teton Range just south of the park and visible from it at some points.

The ride from the lake to the Grand Cañon is a glorious one. The road is good, the diversity of scenery pleasant. The road follows very closely the left bank of the Yellowstone River. Mud Volcano is passed and a somewhat new feature of this land seen. After awhile Hayden Valley is reached. This of itself is a beautiful park, and especially interesting from the fact that in winter it is frequented by the wild animals of the country as a "winter resort." Buffalo, elk, deer, etc., are then found there in large numbers.

We have reached the cañon. After lunch the tourists troop out in groups to see the famed gorge. Some take saddle-horses, some carriages, while others go afoot. As the traveler for the first time descends the long slope from the hotel, he has little conception of what is in store for

him, of what is hidden behind that curtain of trees ahead. He may have heard much of it, have read much, probably has, and formed his ideas of what he is to see, only to find that the thousandth part had not been told.

He goes down with one set of impressions, he goes back with another and higher, and one that will tarry with him as long as the mind performs its functions. One thing is certain: Once having seen this cañon, you will always see it. It can not be forgotten.

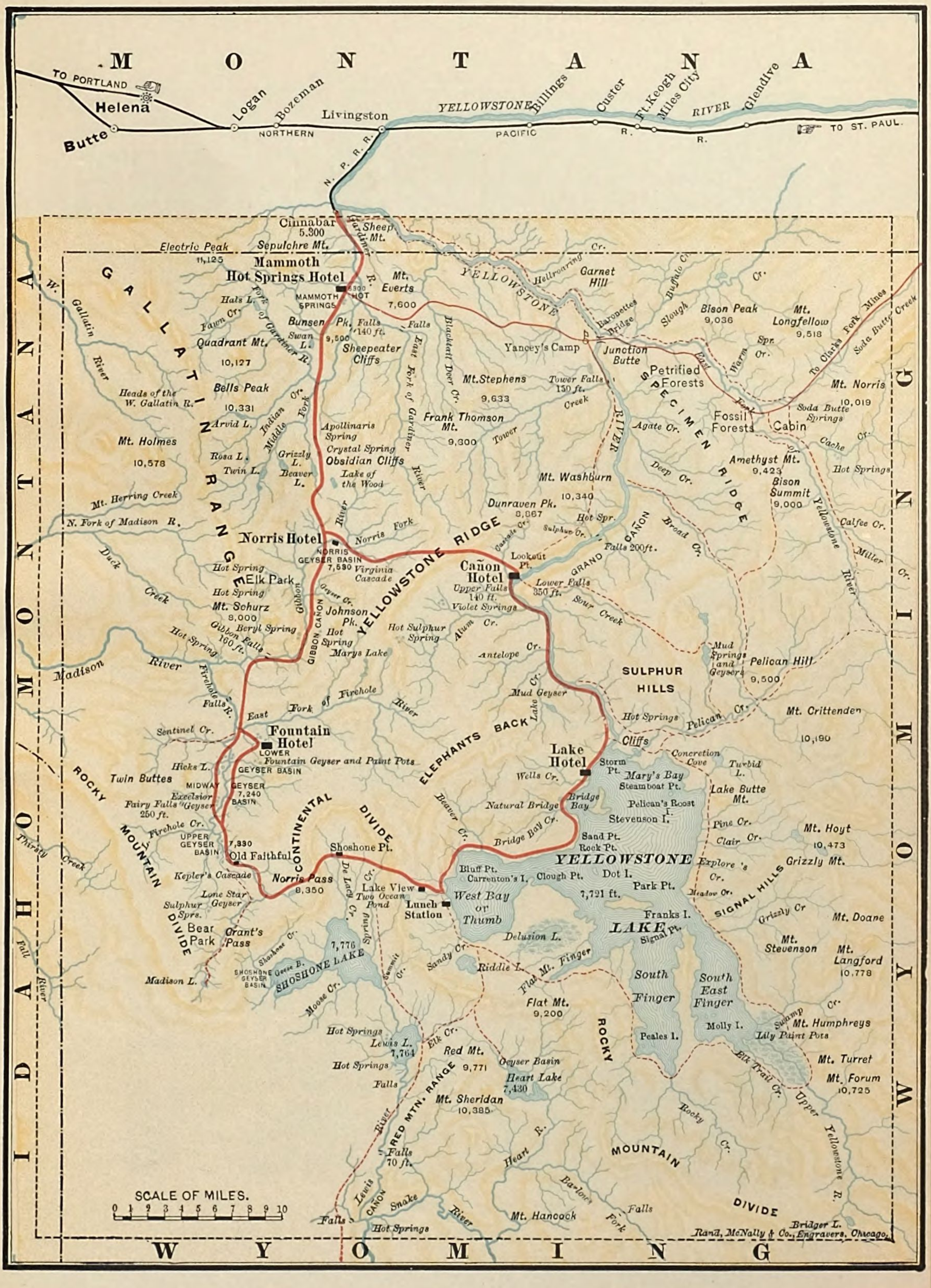
The Grand Cañon of the Yellowstone "has been excavated out of a series of volcanic rocks by the flow of the river itself." It ranges in height from 600 or 700 feet to 1,200 feet, and is twenty-four miles long to the mouth of the east fork of the Yellowstone or Lamar River.

At the bottom of the gorge the width is barely sufficient to afford the river room, as it tears along in mad, uncontrolled course. The sides are at most places very flaring, so that at the summit of the walls the width is many hundreds of feet. At the head of the cañon are the Great Falls, 308 feet high, and one-quarter of a mile farther back, around a turn of the river, are the Upper Falls, 109 feet in height. Entirely unlike, these cataracts are of striking effect, and form one of the finest pairs of waterfalls in the world. Geike, in "Geological Sketches at Home and Abroad," says: "The waterfalls, of which there are here two, have crept backward, gradually eating their way out of the lavas and leaving below them the ravine of the Grand Cañon." Weathering has also done its part in the grand scheme of which we see such stupendous results. It seems well settled, too, that steam and hot water have contributed their share in producing from the extravasated rocks, through chemical processes, the brilliant colors that are found.

Emerging from the trees that line the brink of the gorge, one is confounded at the sudden change. If the day be one of sunshine, it is but a step from shadow to a glare of light and color. Clouds and sunshine cause a tremendous difference in the appearance of the cañon.

One who has read fervid descriptions of the glory and radiance of the walls, and who happens to stand on one of the projecting crags when the sun is obscured, will feel, at least temporarily, that the subject has been overdone. It is simply the absence of strong sunlight, and while the walls are at all times beautiful, they fairly blaze when the sun is seen at his full power. The writer saw them thus, and again in early morning when the sun had to do battle with the mists and clouds, and the difference was great indeed. The strong flaming colors of the midday gave place to milder, more delicate tones, very beautiful in their softness, yet vastly different from the former.

One who approaches the chasm understanding this fact, and knowing further that morning, midday, and evening have each their effect upon


MONTANA
TO PORTLAND
Helena
Butte
Logan
Bozeman
Livingston
NORTHERN PACIFIC R. R.
YELLOWSTONE RIVER
Billings
Custer
Ft. Keogh
Miles City
Glendive
TO ST. PAUL.
N. P. R. R.
WYOMING
IDAHO
Cinnabar 5,300
Electric Peak 11,125
Sepulchre Mt.
Sheep Mt.
Gardiner R.
Mammoth Hot Springs Hotel
MAMMOTH HOT SPRINGS 6300
Mt. Everts 7,600
Hellroaring Cr.
Garnet Hill
Buffalo Cr.
Slough Cr.
Bison Peak 9,036
Mt. Longfellow 9,518
Barronettes Bridge
Yancey's Camp
Junction Butte
Petrified Forests
SPECIMEN RIDGE
Fossil Forests
Agate Cr.
Tower Falls 150 ft.
Mt. Stephens 9,633
Frank Thomson Mt. 9,300
Tower Creek
Mt. Norris 10,019
Soda Butte Springs
Cabin
Cache Cr.
Amethyst Mt. 9,423
Bison Summit 9,000
Hot Springs
Yellowstone R.
Calfee Cr.
Miller Cr.
To Clarks Fork Mines
Soda Butte Creek
Warm Spr. Cr.
East Fork
Deep Cr.
Mt. Washburn 10,340
Dunraven Pk. 8,867
Hot Spr.
Sulphur Cr.
Cascade Cr.
Broad Cr.
GRAND CAÑON
Falls 200ft.
Lookout Pt.
Cañon Hotel
Lower Falls 350 ft.
Upper Falls 140 ft.
Violet Springs
Sour Creek
Alum Cr.
Antelope Cr.
Hot Sulphur Spring
Mud Springs and Geysers
Pelican Hill 9,500
SULPHUR HILLS
Mud Geyser
Hot Springs
Pelican Cr.
Mt. Crittenden 10,190
Concretion Cove
Turbid L.
Storm Pt.
Mary's Bay
Steamboat Pt.
Lake Butte Mt.
Pelican's Roost I.
Stevenson I.
Pine Cr.
Clair Cr.
Mt. Hoyt 10,473
Grizzly Mt.
Explore 's Cr.
Meadow Cr.
SIGNAL HILLS
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Franks I.
LAKE
7,721 ft.
Park Pt.
Clough Pt.
Dot I.
Bluff Pt.
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YELLOWSTONE
Sand Pt.
Rock Pt.
Bridge Bay
Bridge Bay Cr.
Natural Bridge
Beaver Cr.
Wells Cr.
Lake Hotel
Cliffs
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Molly I.
Peales I.
Swamp
Lily Paint Pots
Mt. Humphreys
Mt. Turret
Mt. Forum 10,725
Elk Trail Cr.
Upper Yellowstone R.
Rocky Cr.
ROCKY MOUNTAIN DIVIDE
Flat Mt. 9,200
Flat Mt. Finger
Riddle L.
Sandy Cr.
South Finger
South East Finger
Delusion L.
Lake View
Two Ocean Pond
Lunch Station
West Bay or Thumb
Shoshone Pt.
Norris Pass 8,350
Old Faithful
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Kepler's Cascade
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Geyser Basin
Heart Lake 7,430
Mt. Sheridan 10,385
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Snake River
Heart R.
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Fountain Geyser and Paint Pots
Hicks L.
Twin Buttes
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Excelsior Geyser
Fairy Falls 250 ft.
Firehole Cr.
Sentinel Cr.
East Fork of Firehole River
Firehole Falls R.
Falls
Gibbon Falls 160 ft.
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Marys Lake
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Quadrant Mt. 10,127
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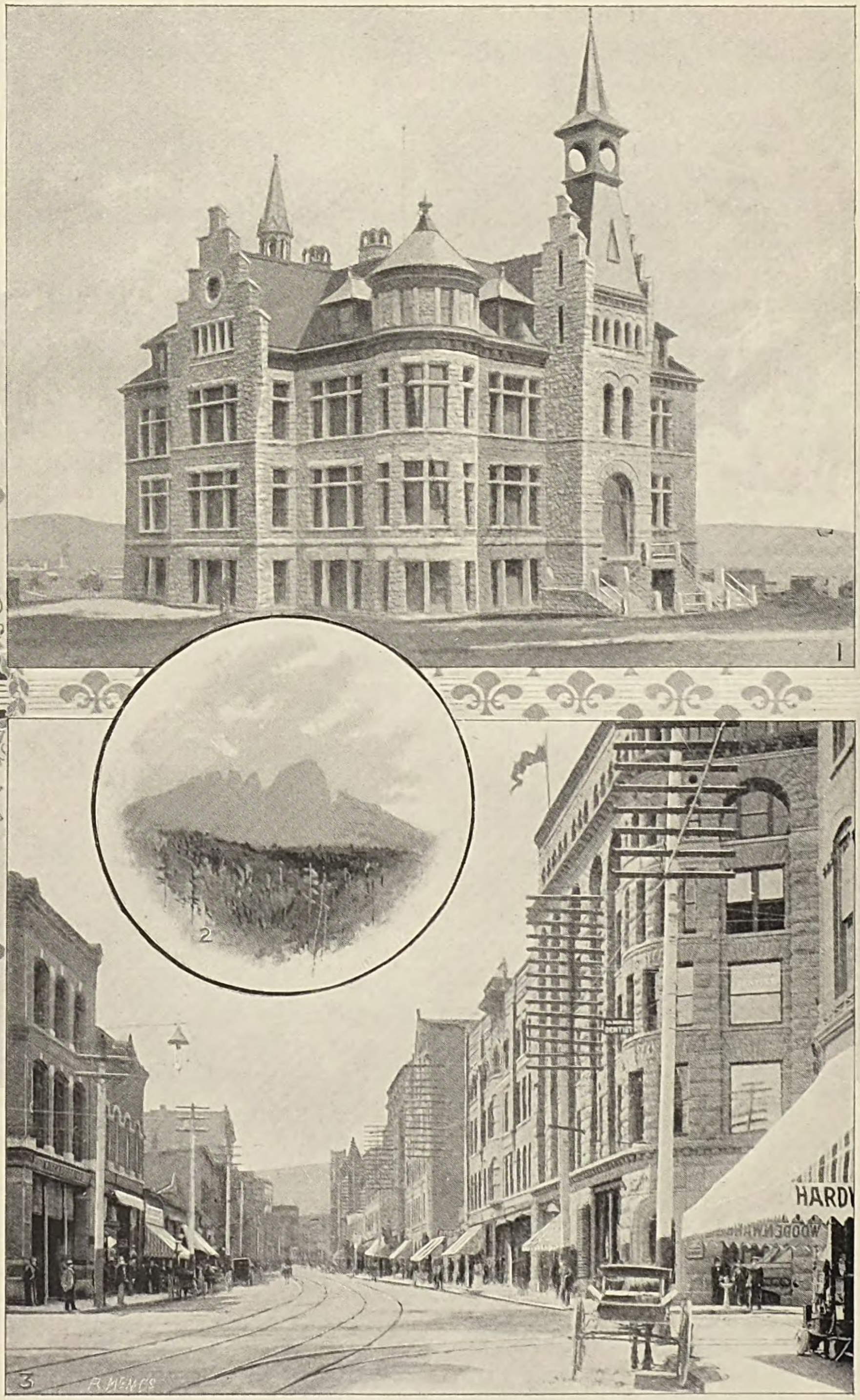
Heads of the W. Gallatin R.
Bells Peak 10,331
Quadrant Mt. 10,127
Swan L.
Bunsen Pk. 9,500
Falls 140 ft.
Sheepeater Cliffs
Hals L.
Fawn Cr.
Fork of Gardiner R.
Gallatin River
W. Gallatin R.
GALLATIN RANGE
Apollinaris Spring
Crystal Spring
Obsidian Cliffs
Lake of the Wood
Blacktail Deer Cr.
East Fork of Gardiner River
Frank Thomson Mt. 9,300
Tower Creek
Yancey's Camp
Junction Butte
Petrified Forests
Tower Falls 150 ft.
Mt. Stephens 9,633
Agate Cr.
Fossil Forests
Cabin
Soda Butte Springs
Mt. Norris 10,019
Amethyst Mt. 9,423
Bison Summit 9,000
Hot Springs
Cache Cr.
Yellowstone R.
Calfee Cr.
Miller Cr.
Deep Cr.
Mt. Washburn 10,340
Dunraven Pk. 8,867
Hot Spr.
Sulphur Cr.
Cascade Cr.
Broad Cr.
GRAND CAÑON
Falls 200ft.
Lookout Pt.
Cañon Hotel
Lower Falls 350 ft.
Upper Falls 140 ft.
Violet Springs
Sour Creek
Alum Cr.
Antelope Cr.
Hot Sulphur Spring
Mud Springs and Geysers
Pelican Hill 9,500
SULPHUR HILLS
Mud Geyser
Hot Springs
Pelican Cr.
Mt. Crittenden 10,190
Concretion Cove
Turbid L.
Storm Pt.
Mary's Bay
Steamboat Pt.
Lake Butte Mt.
Pelican's Roost I.
Stevenson I.
Pine Cr.
Clair Cr.
Mt. Hoyt 10,473
Grizzly Mt.
Explore 's Cr.
Meadow Cr.
SIGNAL HILLS
Grizzly Cr
Mt. Doane
Mt. Stevenson
Mt. Langford 10,778
Signal Pt.
Franks I.
LAKE
7,721 ft.
Park Pt.
Clough Pt.
Dot I.
Bluff Pt.
Carrenton's I.
YELLOWSTONE
Sand Pt.
Rock Pt.
Bridge Bay
Bridge Bay Cr.
Natural Bridge
Beaver Cr.
Wells Cr.
Lake Hotel
Cliffs
Hot Springs
Molly I.
Peales I.
Swamp
Lily Paint Pots
Mt. Humphreys
Mt. Turret
Mt. Forum 10,725
Elk Trail Cr.
Upper Yellowstone R.
Rocky Cr.
ROCKY MOUNTAIN DIVIDE
Flat Mt. 9,200
Flat Mt. Finger
Riddle L.
Sandy Cr.
South Finger
South East Finger
Delusion L.
Lake View
Two Ocean Pond
Lunch Station
West Bay or Thumb
Shoshone Pt.
Norris Pass 8,350
Old Faithful
UPPER GEYSER BASIN 7,330
Kepler's Cascade
Lone Star Geyser
Sulphur Sprs.
Bear Park
Grant's Pass
CONTINENTAL DIVIDE
Shoshone Cr.
SHOSHONE GEYSER BASIN
SHOSHONE LAKE 7,776
Madison L.
Moose Cr.
De Lacy Cr.
Spring Cr.
Summit Cr.
Lewis L. 7,764
Elk Cr.
Red Mt. 9,771
Geyser Basin
Heart Lake 7,430
Mt. Sheridan 10,385
RED MTN. RANGE
Falls 70 ft.
Lewis CANON
Snake River
Heart R.
Barlow's Fork
Falls
Mt. Hancock
Bridger L.
Fountain Hotel
LOWER GEYSER BASIN
Fountain Geyser and Paint Pots
Hicks L.
Twin Buttes
MIDWAY GEYSER BASIN 7,240
Excelsior Geyser
Fairy Falls 250 ft.
Firehole Cr.
Sentinel Cr.
East Fork of Firehole River
Firehole Falls R.
Falls
Gibbon Falls 160 ft.
Geyser Cr.
Johnson Pk.
Hot Spring
Marys Lake
Beryl Spring
Mt. Schurz 8,000
Elk Park
Hot Spring
Hot Spring
Norris Hotel
NORRIS GEYSER BASIN 7,530
Virginia Cascade
Norris Fork
Gibbon River
Duck Creek
N. Fork of Madison R.
Mt. Herring Creek
Mt. Holmes 10,578
Rosa L.
Twin L.
Arvid L.
Grizzly L.
Beaver L.
Middle Fork Indian Cr.
Heads of the W. Gallatin R.
Bells Peak 10,331
Quadrant Mt. 10,127
Swan L.
Bunsen Pk. 9,500
Falls 140 ft.
Sheepeater Cliffs
Hals L.
Fawn Cr.
Fork of Gardiner R.
Gallatin River
W. Gallatin R.
GALLATIN RANGE
Apollinaris Spring
Crystal Spring
Obsidian Cliffs
Lake of the Wood
Blacktail Deer Cr.
East Fork of Gardiner River
SCALE OF MILES.
0 1 2 3 4 5 6 7 8 9 10
Rand, McNally & Co., Engravers, Chicago.



SCENES IN HELENA, MONTANA.

1. High School, Helena. 2. Bear Tooth Mountains, near Helena. 3. Street in Helena.

the walls, will be prepared to make allowances if necessary. He will thoroughly appreciate what he sees and as he finds it, and can imagine from the one what the other may be. I quote from two distinguished men, great travelers both of them; men of national reputations, profound, brilliant, exact, to show that what has been written concerning the Grand Cañon *is true*.

Geike — before mentioned — one of the greatest geologists of the whole world, writes :

> Unprepared for anything so vast, we emerged from the last fringe of woods and stood on the brink of the great chasm, silent with amazement.

Rev. James M. Buckley, D. D., LL. D., editor of the *Christian Advocate* of New York, a most original thinker and observer, after having been through the Yosemite, to Alaska, and in the Park, says :

> Beauty, grandeur, sublimity, and dreadfulness ; inspiring delight, wonder, awe, or terror, according to the beholder's mood and point of view, meet in the Grand Cañon of the Yellowstone.

Doctor Buckley surely should know.

> "To him who in the love of nature holds
> Communion with her visible forms, she speaks
> A various language ; for his gayer hours,
> She has a voice of gladness and a smile,
> And eloquence of beauty, and she glides
> Into his darker musings, with a mild
> And healing sympathy that steals away
> Their sharpness ere he is aware."

This quotation from Bryant is not an inapt way of expressing the fact that the cañon appeals to each of us in some peculiar way. The man of God will see in the emblazonings of the walls, the depth of the gorge, the grandeur of the cataract, the power and glory of Jehovah, maker of worlds and ruler of the universe. The artist, the painter or sculptor, as he looks over the wonderful scene, will think only of pigments and proportions and daring effects and heroic forms. The devotee of science will meditate upon the centuries necessary to have wrought such results, and strive to discover some new principle or fact in geology. The lecturer, intent upon electrifying thousands, will think over what rhetorical periods and startling comparisons he may frame, that enraptured audiences may hang breathless upon his words. The common run of humanity, the *hoi polloi*, will see a vision — a picture that causes them to stand in awe and silence, and caring less as to the why and wherefore of what produced such amazing results, "shall see of the travail of their souls, and shall be satisfied."

A homely, and yet it appears to me not inappropriate, impression that may come to many as they see the almost barbaric richness of color here, is that a paint-pot of mixed colors and of prodigious size has been overturned, scattering its contents in every direction. Here a long river of red has run streaming down the slope like a long-tailed meteor. There the whites or yellows from the pot have spread themselves over wide areas. At another place a red Gothic pinnacle stands up out of a gray sea, while elsewhere, black and gray and red and white have commingled as the vessel tipped, and strong contrasts and modulated gradations lie harmoniously together.

My companion and I, mounted on horses, had ridden along the trail, dismounted and climbed out to Inspiration Point, well named, and had retraced our route nearly to Lookout Point. The trail wound close to the brink, and the flaring Gothic-carved walls in all their tinted savagery lay open like a book beneath us. In long, easy angles they swept down to the river that like — not a silver thread — no, no, let there be *one* river, especially when 'tis the actual fact, at least at this point, that it is *not* a silver thread — a rich emerald thread rushed through the chasm. With the habits of former years, the temptation before me was too strong, and I suggested climbing down to the bottom.

My friend was anxious to try it, and our sedate steeds were soon haltered to trees and we were ready.

Hall, not accustomed to this sort of work, cut a staff to use, and we descended the rocks which for some little way opposed us. We then stood at the upper end of a steep and wide slope of red, disintegrated rock finely granulated. This lay ankle deep, was soft, and alternated vertically with zones of the same material where the granules had rolled or blown away, leaving it firm, and poor footing for a descent.

Down through the softer stretches I went in long leaps and felt like a boy again. In ten minutes I was at the bottom, and could have made it in five.

Flat on my face and stomach I threw myself and took a long draught from the raging river.

Then I sat down and studied the cañon. It was now quite late in the afternoon, and while the sun still touched the upper cliffs, the lower walls were beyond his reach.

At a curve in the cañon above me the river came rushing down in a cascade fashion, with large curling waves. Just where I sat it plunged down a vertical wall in the river's bed and formed a fine fall of twenty-five or thirty feet, the entire width of the stream. From the cañon's brink the true nature of this fall was not revealed. Indeed, the appearance of the whole stream was vastly different, the elevation of

course flattening it to a great degree. The south wall of the cañon was quite vertical, built up in small buttresses, which grew longer and more pointed higher up. Toward the top the walls were weathered into pinnacles, turrets, and oblong masses that assumed odd forms. The prevailing tone of the walls was a whitish gray above, becoming more somber below, with a touch of red to enliven it at places. A black liquid, it seemed to be, exuded at many points, and jets of steam, miniature geysers perhaps, were seen here and there.

Just above my head on the north side were patches of moss, grass, and some purple flowers, a little life in so much barrenness. As I compared the sides of the cañon, the north wall seemed to have more warmth and color, and to be less precipitous. This effect in color may be due largely to the fact that the sun still bathed its sides while the other wall was in shadow.

At the bottom of the abyss the effect of the sun in imparting character and strength to the paintings on the walls is plainly seen. As we climbed out of the cañon this influence was especially impressed upon us. The somber hues below grow brighter above, and the general aspect more animated and cheerful.

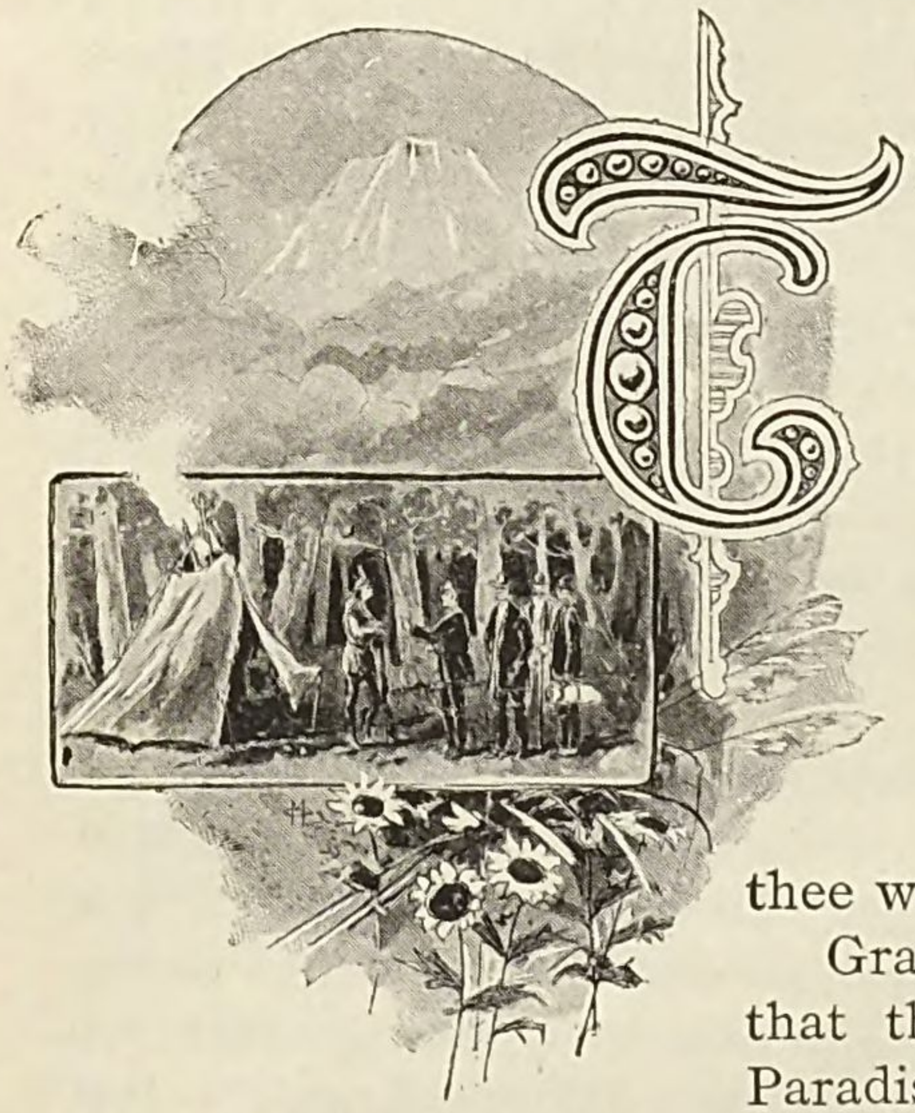
Hall reached the bottom of the cañon some time after I did. He remained but a short time, and now, as the shadows were growing long, I could see him slowly working upward and far above me. Selecting a good-sized, characteristic and highly-colored stone as a memento of my visit, I started for the top, picking my way over the *hard* ground this time in order to obtain good footing. In just thirty minutes I had reached the horses, with Hall at my side. As a hint to the tourist I will state that the brilliancy of color of my piece of rock has long since vanished. It nevertheless has a place of honor at one side of my parlor grate, and on the other is a chunk of obsidian from Obsidian Cliff.

THE CAÑON TO MAMMOTH HOT SPRINGS.

From the cañon the road winds westward through the timber, following the Upper Gibbon River much of the way. Virginia Cascade is passed en route, and Norris Geyser Basin lunch-station, with its original and inimitable landlord "Larry," is reached in time for lunch. Thence the stages retrace the route followed on the outward journey.

MOUNT RAINIER.

ITS ASCENT BY A NORTHERN PACIFIC PARTY.



THOU lord of mountains, majesty of majesties, peak of peaks, the pride of every true American; thou who in thine long, glistening robe, woven by the winds of the ocean from the mists of the night, standest in thy might and grandeur, touched by the calm waters of our western sound, with brow laved by the gentle dews of heaven, and vision reaching out across Pacific's heaving bosom toward the Orient, to thee would I pay my tribute.

Grant, I beseech thee, oh! hoary monarch, that the remembrance of my wanderings in Paradise; the Camp among the Clouds; the sound of thy waterfalls; the flowery banks amid the snow; the thunderings of the avalanche; the frowning cliffs of Gibraltar; the tramping over thy snowy fields; the swift slide down the snow-cliffs; the stand upon thy topmost point in cloudland, where one felt as if in communion with the Almighty God himself, ruler of heaven and earth, of mountain and vale, of torrent and rock, of man and nature; grant, I entreat thee, that of these may come an inspiration that will enable the brain that directs the hand that holds the pen, to, in a measure, depict for others who would know more of thy great presence, some of thy glories and attributes.

In the midst of a swelling maze of noble mountains thou rearest thy tri-crested form. Not as do many, from a mountain plain itself thousands of feet in midair, but from the level of old ocean itself. Straight aloft thy dome-like, spectral shape stretches toward heaven the full measure of the more than 14,000 feet which compasses thy stature. About thee, regal too in their ample proportions, rise thy fellows, also attired in their garments of white. High as they reach toward the azure vault, endowed as they are with dignity and grandeur,

none of them, oh! greatest of all, nor Adams, nor Baker, nor St. Helens; nor yet Hood, most graceful and symmetric of them; none of them approaches thee, the highest and mightiest of mountain chiefs. Supreme, omnipotent of thy kind, thou standest. Mountain and valley, river and glacier, sea and forest, the fowl of the air, the beast of the field, the creeping thing of earth, and greater than all, man himself, made in the image of the Almighty, make their obeisance to thee, and acknowledge thine exalted character.

And as for a time we do thee homage, let it be that in studying thee, we study Him who made thee, the great I Am, at whose will the mountains are brought forth, the valleys are clothed, the rivers are poured out, and man himself created.

PERSONNEL OF THE PARTY.

In the summer of 1894 the Northern Pacific Railroad, believing that the time had come when this peerless mountain should be more prominently brought to the attention of tourists, geological and glacial investigators, and students of universities and colleges, given to summer scientific excursions, authorized the writer to organize a party for the ascent of the mountain. This was done and the party left Tacoma the evening of July 31st, returning thereto, after successfully accomplishing its purpose, August 13th. The party consisted of Henry M. Sarvent, a young civil engineer, of Tacoma, as guide; Dr. Lyman B. Sperry of Bellevue, Ohio, an educator and lecturer; Ross Comstock of Elbe, Wash., general assistant; George M. Weister of Portland, Ore., as photographer; and the writer.

THE CORDILLERAN MOUNTAIN SYSTEM—THE SIERRA NEVADA—THE CASCADES—THE PACIFIC FOREST RESERVE.

The large number of mountain ranges—a most complex system—embraced within the region bounded by the Rocky Mountains on the east and the Pacific Ocean on the west, are now grouped by geographers and scientific men generally under the name of the Cordilleran system. It not only occupies the greater part of the region known as the "Great West," but extends as well into British territory to the north and the Mexican States to the south.

The western boundary of the Cordilleran system consists of the Sierra Nevada and Cascade ranges, the latter being regarded by many geologists familiar with both chains as properly a continuation of the former.

The upper or northern end of the Sierra Nevada is different, geologically speaking, from the other portions of the range, in that it is marked, among other features, by evidences of recent volcanic action. This peculiarity is also a concomitant feature of, and is perhaps even accentuated in, the Cascades. Volcanic cones rise high in the air, forming peaks of great height and grand proportions. Such cones are Mount Shasta, Mount Adams, Mount Hood, Mount St. Helens, Mount Rainier, and Mount Baker much farther north. These giant peaks are admired by tourists and travelers, who perhaps, save in exceptional cases, have no idea of their true nature.

Mount Baker is known to have been in eruption in 1843, 1854, 1858, and 1870. Smoke and steam, it is asserted, have frequently been seen rising from St. Helens, and steam jets are constantly in play on Rainier, but visible usually to those only who attain the summit.

Of all the giant cones of the coast, Rainier is the greatest. Hood, Jefferson, St. Helens, Baker, Adams, splendid monuments of Nature's handiwork though they be, are eclipsed in height, massiveness, glacial interest, and grandeur by Rainier, the mightiest of them all.

In February, 1893, a tract of mountain and forest land surrounding Mount Rainier was, by Presidential proclamation, set aside as a forest reserve. The area of this reserve was about 1,500 square miles, or 967,680 acres. It was reserved under the title of the Pacific Forest Reserve.

The noteworthy characteristics of this region are high and precipitous mountains, whose crests and flanks are densely covered with a tangled and sweeping forest, and the narrow gulches and gloomy gorges filled with glacial torrents. This forest is largely of the coniferous sort, firs, cedars, some pines and hemlocks, also spruces and larches. There are also many deciduous varieties in the bottoms and clearings, mainly alders, maples, ashes, and cottonwoods.

This wonderful forest is characteristic of the Cascades. In a luxuriance almost tropical, it extends from north to south in gigantic convolutions up and down the terrific slopes, and from west to east it sweeps over the summit lines in great and startling green waves.

The Reserve is a botanist's paradise. The number of varieties of flowers that bloom here during the season must be a very large one. Could a floriculturist be in Paradise Park from early spring until late fall, and watch the succession and procession of flowers, he could a tale unfold to those of kindred tastes.

Shooting-stars, asters, scarlet painted cups, anemonies, heliotropes, laurels, spireas, columbines, musk plant, saxifrages, speedwells, crowsfoot, dogwood, heathers, and dog-tooth violets were a few of the flowers that dotted the slopes and beautified the hills. Of most and perhaps all of

these, and many others, there were several varieties. Of heathers, for example, there were the purple, white, and pink; of asters, three or four kinds; of dog-tooth violets the same, etc.

The asters and violets were plentiful and beautiful, and the painted cups with their blazing scarlet cups were very conspicuous. Among the rocks and near the snow were many demure little flowers that wrought a touch of tenderness in one as he gazed at them. One could almost fancy that they apologized for being there. Very pleasant was it to come across these little dainties snuggling close against the harsh, jagged rocks, as though nature, in her compensatory way, was endeavoring to soften the asperous character of the spot.

The paramount feature of the region and park, the phenomenon for which it will beyond doubt be most widely known and frequented, is the system of glaciers which radiate from the summit of the grand old mountain. A plan of the peak, or a map of it, shows it to have the appearance of an enormous bug, or a huge octopus.

There are sixteen or more of these ice rivers, depending upon whether some of them are considered as single glaciers or branches of a larger one. These vary in size from about four or more miles long and a mile or more in width, down to one-half mile in length and a quarter of a mile wide for the smallest.

TABLE OF MOUNT RAINIER GLACIERS.

NAME.	LENGTH IN MILES.	WIDTH IN MILES.	NAMED AFTER.	REMARKS.
Carbon	4	1 1/8	Carbon River	River after coal-beds it flows through.
Winthrop	3 3/4	3/4	Theodore Winthrop	
Inter	3	1/2	----------	So called by E. S. Ingraham.
White River	3 1/2	2/3	White River	White River, so called from color of the water, owing to its glacial origin.
Serviss	2/3	1/3	Garrett P. Serviss	A public lecturer.
Williwakas	1	1/4	Williwakas River	
Cowlitz	3 1/4	3/4	Cowlitz River	
Paradise	1	1	Paradise Park	Source of Paradise River.
Nesqually	3 1/3	1	Nesqually River	Nesqually—A tribe of Indians that lived on the banks of the river.
Van Trump	1 1/8	3/8	P. B. Van Trump	One of the three that first reached the actual top.
Kautz	2 2/3	2/3	Gen. A. V. Kautz	First white man known to have climbed the mountain. Did not reach actual summit.
North Tahoma	4	2/3	Indian name of the mountain	Ta-ho-mah is the real Indian name for the mountain.
South Tahoma	3	1/2		
Puyallup	3 3/4	1	Puyallup River	Puyallup—A tribe of Indians.
South Mowich	2 1/2	3/8	Mowich River	Chinook Indian word; means deer.
Mowich	3 2/3	1	Mowich River	

The names of these glaciers and their approximate linear dimensions, based upon the latest and most accurate map, made for me by Mr. Sarvent, are given above. I will state that since our trip to the mountains, Mr. Sarvent has made two excursions in collecting data for this map. Of the first of these trips he says:

"I have made another trip to the mountain alone, and went over the route that we spoke of going over between Crater Lake and Paradise Park. I started on the 27th at Crater Lake and went around on the west side, keeping at an elevation of about 7,000 feet, crossing all the glaciers, and arrived at the Nesqually glacier August 31st, 4 P. M."

This map is undoubtedly the best now extant. Mr. Sarvent has adopted the work of others for the northeast side of the mountain, checked by his own observations from the summit at the time of our ascent. The second trip mentioned above, he made to the Carbon glacier and the north side of the mountain.

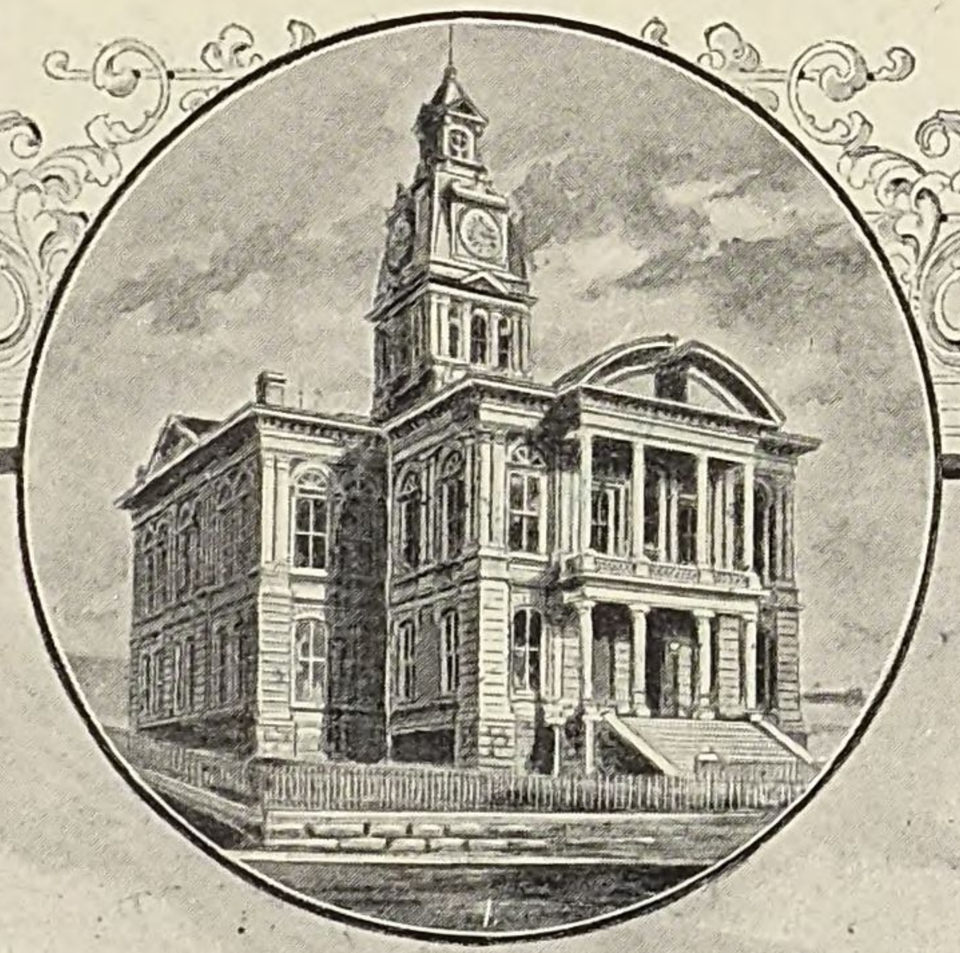
There appears to be no uniformity among those interested in the mountain, as to the names of some of these glaciers. I have used the list as given me by Mr. Sarvent.

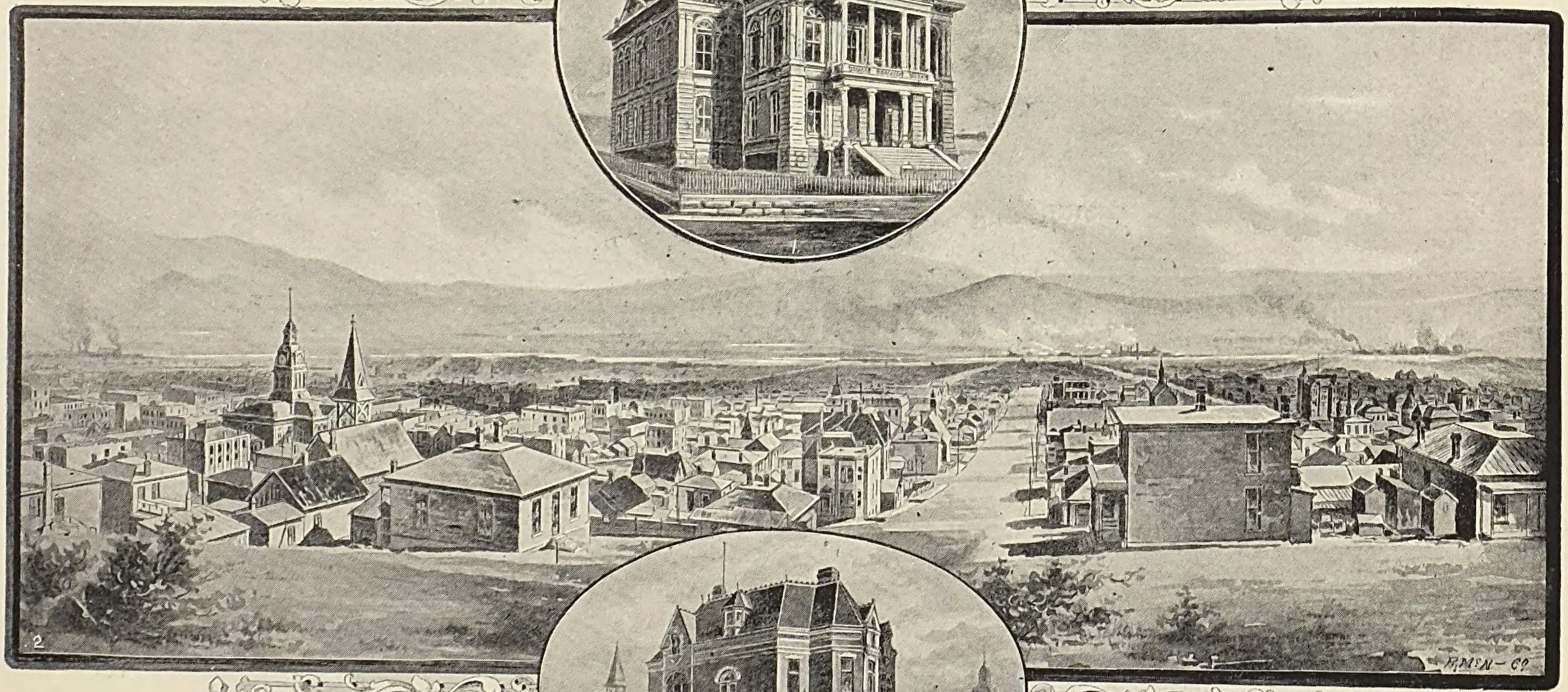
By what sort of logic or propriety the names of outsiders are given to objects about the mountain, it is difficult to see. Van Trump has very strongly entered his protest against calling these glaciers and other places after individuals. Surely if one so worthy of such honor, and whose name is attached to one of them, objects to such action, it would be well to pause and endeavor to rectify what has been done. If individuals' names are to be thus kept green, let it be those only who first braved the perils of early ascents and explorations, and remember *them* fittingly.

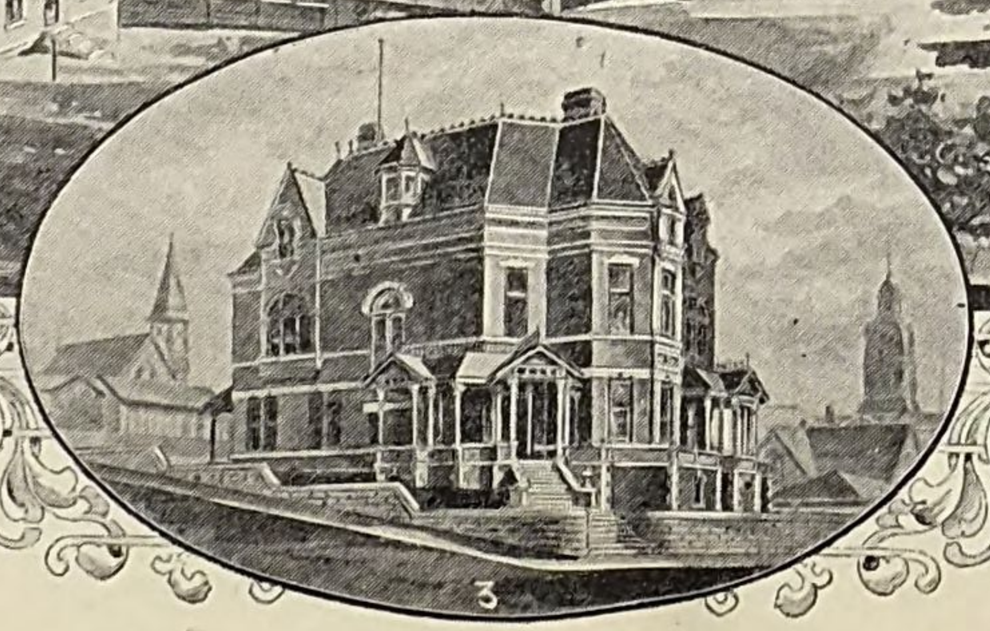
The drainage of these glaciers is in every case westward into Puget Sound and the Columbia River. No sooner do the glacial channels that are born of the glaciers on the east side of the mountain, reach the base thereof, than they at once begin fighting their way westward.

It must be remembered that these glaciers have their sources at the very apex of the peak. For a vertical distance of about 8,000 feet from the summit downward, the mountain proper is covered with a glittering, polished, white enamel of ice and snow. How deep may be this beautiful surfacing, no man can know certainly. That in many places it is at least hundreds of feet, is reasonably sure, while at other points, vertical cliffs for instance, it is just as certain that it is comparatively thin. Instead, therefore, of a mountain of black, rocky flanks, ridges, and precipices, we find one with white, gleaming top and sides, and bluish-green ice precipices. True, at a few points the rocky ribs and knolls thrust themselves through this white veneering as if, like Banquo's ghost, they will *not* down entirely. From the upper parts of this crystal field, the glaciers spring. Down they drop in sheer descent, hundreds and thousands of

Evans Cr.
Grindstone Cr.
Grindstone Camp
Tolmie Peak
Tolmie Lake
Meadows Camp
TRAIL FROM WILKESON
31 MILES
Castle Rock
Crater L.
Fay Peak
Cataract Valley
Spray Falls Park
Mowich River
Rushing Water
North Mowich Glacier
South Mowich Glacier
Carbon River
Crescent Peak
ELYSIAN
SLUISKIN MTS.
FIELDS
Philo Falls
Carbon Glacier
MORAINE PARK
Moraine Lake
West Fork White River
WHITE RIVER
Echo Rock
Wintbrop Glacier
Inter Glacier
Saw Tooth
Tahoma Peak
14,800 ft.
White River Glacier
Peak
Glacier Meadows
Little Tahoma
Fan Falls
Cowlitz Glacier
Paradise Gla.
Camp of the Clouds
Sluiskin Falls
PARADISE PARK
PARADISE Falls
Paradise R.
Reflection Lake
Stevens Peak
Taos Peak
Pinnacle Peak
TATOOSH RANGE
Eagle Peak
Cowlitz (Muddy Fork) River
Longmire Springs
S. Fork Puyallup River
Puyallup Glacier
North Tahoma Glacier
South Tahoma Glacier
Kautz Glacier
Van Trump Glacier
Nesqually Glacier
Goat Mt.
HENRY'S HUNTING GROUND
Tahoma Fork
Kautz Fork
Haines Mill
WAGON ROAD FROM TACOMA TO LONGMIRE SPRINGS, 61 MILES
NESQUALLY RIVER
TRAIL ROUTE
1891 F. Cees
1870
1857
Camp of the Clouds
Paradise Gla.
Panorama Point
Camp Muir
Cowlitz Rocks
Ingraham Glacier
Gibraltar Rock
Gerard Tab
Glacier Meadows
Little Tahoma Peak
Peak
Glacier
Ingraham Glacier
Cowlitz Rocks
Cowlitz Glacier
Camp Muir
Paradise Gla.
Panorama Point
Camp of the Clouds
Paradise R.
Reflection Lake
Stevens Peak
Taos Peak
Pinnacle Peak
Eagle Peak
TATOOSH RANGE
Cowlitz (Muddy Fork) River
Longmire Springs
Sluiskin Falls
PARADISE Falls
PARADISE PARK
Fan Falls
Glacier
Little Tahoma
Peak
Glacier
Glacier
Glacier







BUTTE CITY, MONTANA.

feet, twisting down through, and filling from side to side, the deep gorges which they and their children — the rivers — have gouged out. Magnificent rivers of ice, brittle, almost colorless, gashed by transverse ice cañons fascinating in their danger, they move slowly and remorselessly along, brooking no opposition, to at last transform themselves into a roaring, spumy torrent rushing on to the sea.

Judging from our own observations, the region is deficient in animal and bird life. Scarcely a small bird was seen or heard, and a marmot or a badger far away on a snow-field was the only animal I recall. A few grouse and ptarmigan were seen. The mountain has been reputed to be in the past, the home of deer, bear, white goats, wolves, etc. Lack of watchfulness by the Government is probably responsible for this state of affairs.

Hunting and trapping is still indulged in, and live and growing trees cut down for fuel. Indeed, at Camp of the Clouds, live timber is nearly all that there is left for fires. It is a perfect travesty to set aside this magnificent domain, and then make not even the pretense of an effort to protect and maintain it in its pristine purity and grandeur.

Visitors to Mount Rainier are increasing in number. In 1894, more than 700 visited Paradise Park. The facilities for reaching the park are being improved, and the influx of tourists will now doubtless increase.

Eating-houses and lodging-places are located at many and convenient points. The accommodations are much better than one is prepared to find, and at very reasonable rates.

Any one can go there, men and women, boys and girls. Only about two weeks before our party ascended the peak, the Ingraham party made the ascent, and among them were *three ladies*, one, Miss Helen Holmes, a pupil of the Seattle high school, fifteen years of age.

Camping spots in the park, where wood and water are convenient, are numerous. One needs only to go well prepared with tents, camping outfit, bedding, warm clothing, etc., to pass an enjoyable time. There will be much tramping in the snow and the feet will become thoroughly wet, but with a change of footgear immediately upon returning to camp, no unpleasant results will ensue. Rain may also come and, as with us, the clouds may settle down for two or three days at a time, but with care, excursions may even then be continued.

The distance from Tacoma to Longmire Springs is about sixty-one miles, and to Paradise Park sixty-seven miles. This drive may of course be arranged to suit the wishes of parties. No fatigue, owing to the heat of the sun, will be felt, as the road for the greater part of the way is shielded from the rays of the sun by the forest.

No party should go to the mountain without a good guide and a cook.

If the party be not too large, these may be combined in one person. While the expense for a fortnight's stay might be considerable for one person and guide, this would depend upon what sort of a camping outfit and provisions were procured. A party of from three to six could go provided with both guide and cook, live well, and the pro rata expense be reasonable and quite small. Under proper governmental supervision, which should at once be given, the future possibilities of this region as an outing spot are beyond computation.

It is not only as a field for scientific study, a place to view fine scenery, or to prove one's prowess in feats of alpinery, that I would write of Mount Rainier. It should become famed as a health resort. The soft, mild climate, tinctured with the odors and healthful properties of the balsamic forests; the satisfactory elevation of Paradise Park, not too great to be weakening to those of delicate build, and elevated enough to prove wonderfully invigorating; the variety of scenery and almost unlimited opportunity for out-door physical exercise, it seems to me, must eventually tell in its favor. These should induce invalids, save those of a consumptive nature or with aggravated pulmonary complaints, to seek the restful, balmy slopes where winter lingers in the lap of summer, and the beneficial advantages of each are commingled. Let those in search of fresh mountain pastures, where worn-out minds and bodies may be restored, make a note of Mount Rainier.

OFF FOR THE MOUNTAIN.

TACOMA TO LONGMIRE'S SPRINGS.

On Tuesday evening, July 31st, we took the street-car on Lower Pacific Avenue, Tacoma, that connects with the steam motor line for Lake Park.

Leaving Lake Park the following morning, the road wound for a few miles through the park region heretofore mentioned that lies at the base of the range. The grass was cured and of a yellow brown, and the green, shapely evergreens, standing now in family groups, again in rows, or perchance singly, furnished some beautiful little pictures of parkland. Nature can surpass noblemen in laying out fine parks.

And now the road climbs the eternal hills that gradually lead up to the big mountain itself. In pushing in among the mountains, we plunge into the depths of the massive forest. Left behind the softer touches of the open country, the bright evergreens, the hard, level prairie. Before us, for mile after mile, broken only by a few clearings and ranches, are the cool arcades of the wilderness, whose mighty cedars, firs, and

occasional hemlocks and pines of the coniferous family, stretch their giant trunks 100, 150, aye, even 200 feet heavenward. Mingled with these old rustlers of the centuries, almost indeed under their protecting branches, in the less heavily timbered spots, are the ashes and maples, the alders and poplars and box-elders, etc., of the deciduous sort. Small, slender, and lithesome, they gracefully bend to the murmuring breezes that gently creep through the aisles of the mightier forest. Up hill and down, along slight grades and o'er level pieces of road, across small water-courses, by oozing springs, but ever through the grand growth of trees, we ride or walk as inclination prompts, and learn new lessons of God's goodness and Nature's manifold greatness.

Long after the sun has passed its meridian, we reach Eatonville, a little hamlet of a half-dozen houses.

Between Eatonville and Elbe, our stopping-place for the second night, the forest grew denser and more interesting. It was not only a novelty, but a delightful pleasure to slowly thread the narrow road cut through the very heart of this timberland. Between Eatonville and Longmire's Springs it stretches in unbroken continuity, a "forest primeval" indeed. 'Tis true there are little clearings where some hardy settler has bravely attacked the mighty giants, and with fire and axe beaten them back, but they form a high cordon about and hem him in and again sweep onward.

At Elbe we obtain another satisfactory meal, then arrange our beds and lie down for a good night's rest. We here reach the Nesqually River, fresh from the glaciers, and feel that we are drawing near our goal.

Reader, have you ever seen a glacial river, a river of water flowing from a river of ice? If not, you have something to see that will interest you, and if you are of an observant nature, you will experience emotions and sensations of an unusual sort.

Well, did you ever see a river of milk? No? This can hardly be called that, it is true, but it is of a drab color that makes you think of dirty milk. This is characteristic of glacial rivers, the sediment being of such a character as to impart this somewhat milky hue to the waters.

Let me state another peculiarity of this and other glacial streams. During the day the sun of course causes the glacier to melt. Millions of tiny streams thus go coursing over the surface of the ice, and the heat naturally causes the quantity of water running from the glacier to be much greater in daytime than at night. Now, this causes a complete reversal of this state of affairs farther down stream.

Elbe is just far enough down stream to illustrate this. During the night the stream here rises, and in the morning we found it considerably higher than the previous evening. That is to say, the distance between

the mouth of the glacier and Elbe is such that the higher water of the daytime, *at the mouth of the glacier*, flows past the latter place each succeeding night, and the low water of the night *at the glacier* is found at Elbe during the day.

We now follow the course of the Nesqually River, the road keeping to the right bank. This day in the woods is replete with surprise.

Vegetation is luxuriant, especially so in spots. The trees have large quantities of moss on them. This is of two kinds. A pale, pea-green, stringy kind, dry and like corn-silk in its nature, is the more uncommon species. It is found in quite long masses, and ofttimes hangs from the limbs in great quantities. Another sort is the common moss, and of a darker green than the former. It clings to the dead and decaying trees, and invests many of them with most grotesque forms. It is no uncommon sight to see the dead trunks and limbs of a tree entirely enveloped in this covering, and the appearance is striking in the extreme.

Here we stumble upon a strange freak of nature. A monster tree rising high overhead and as straight as an arrow, has clutched in its massive roots, and *above the ground*, an old log. It stands astride the log with the roots sinking deep into the ground upon each side.

What is the explanation? Another phenomenon met with, perhaps, at the same locality, may suggest the philosophy of it. Glance at that old decayed stump, ten or twenty feet high. Dead, it yet bears aloft a young forest of its own. One tree as tall as the stump itself sways grace, fully in the slight breeze that kisses it. The entire surface of the top of the ancient monarch is covered with a heavy growth of foliage—smaller trees. Possibly a chance seed took root on the old log as on yon stump, and waxing strong, its roots followed around the sides of the log in their search for mother earth.

Devil's clubs, a species of plant that grows high, with thick stems and large leaves the size of a palm-leaf fan, are a feature of the vegetation. They bear long spines that penetrate the flesh and inflict much pain upon the unwary.

The evening found our road journey ended by arrival at Longmire's.

Here one can drink a pure, unadulterated soda water. Not the snapping, fizzing, artificial stuff of the soda fountain, but such as God Almighty provides for his children in Nature's own laboratory. It comes, not through a metal worm, artificially cooled by ice, but, fresh and pure from its reservoir in the bowels of the earth, it filters upward, and sparkling and bright bursts forth into the sunlight, a cooling and delicious beverage. It is not all cool either. Some of it is lukewarm, yet pleasant to the taste. These warmer waters are used for the baths, and the writer's experience in them is an agreeable recollection.

JAMES LONGMIRE, AN OLD CLIMBER AND MOUNTAINEER.

One of the interesting features of the springs was Mr. Longmire himself. There has always been to me a great fascination in meeting the old mountain men, plainsmen, trappers, etc., of the West. The men who pushed out across the plains into the unknown when the wild, untamed, prowling Indian held sway, and the "Great American Desert" was so prominent a feature of geographies, or who risked the voyage around the Horn, usually can tell an interesting tale if they will.

Longmire is one of these men. Tall, nearly six feet, spare, smooth-faced, his very air and conversation as he moves about among his guests will attract attention. He came from Indiana, and has borne an honorable and prominent part in the development of the region. Years ago he pushed into this tangled wilderness when faint Indian trails were the only roads, to prospect for a road across the mountains. I think it was upon a second visit to the region that he found the springs, and with them some mineral paint deposits.

It was in August, 1883, that Longmire made the climb to the summit of Rainier. In company with Van Trump and Bayley, he reached Crater Peak and passed the night of August 16th in one of the ice caves. His experience was one he does not care to repeat. Either owing to the direction the party took, or the character of the ice and snow, the climbing was unusually difficult, and they were a long time in reaching their goal.

Closely identified with the mountain ever since that time, the gentleman has never felt inspired to join his friend Van Trump in his frequent excursions to the summit. He is now seventy-four years of age, and a well-preserved man, his hair iron-gray, his form remarkably erect.

THE MOUNTAIN FROM LONGMIRE'S—PEAK SUCCESS.

The little park, "hole," or clearing at the springs is set deep down amid the mountains. Its elevation as now established is 2,650 feet above sea-level. The loud music of the white Nesqually is never unheard, and the river in its eccentric deviations at one time flowed across a portion of it, as evidenced by the accumulation of clean, white stones and boulders —shingle. On the western side of the vale there rises to a great height, a dense black rampart—black in front of us with trees, and blacker, farther along, with a tremendous vertical, weather-beaten palisade of rock, that extends well along toward Mount Rainier.

But turn to the north—aye, there is the old fellow himself, where for

centuries his snow-crested brow, bared to the icy winds of earth and heaven, has reared itself toward the stars. How grandly it towers above us, strong in repose, and softened by the white shroud that overspreads it, through which its herculean old ribs stand forth!

As we see it now close at hand, at its very base, it has lost something of the deterrent aspect it possesses when viewed from a distance. One can fancy that it seems to extend a friendly greeting, and to invite acquaintance and intimacy. One can imagine that in its way it says, "I am not such an ogre that men should fear me. I bear no ill-will, cherish no resentment. Come to me; partake of my hospitality; be friends. On my bosom you shall rest unharmed. O'er my brawny shoulders you may climb undismayed. Upon my very crown you may stand and shout Excelsior, and view the land from north to south, from east to west, such a view as John of Patmos himself might have rejoiced in."

From here the most southern of the three peaks of the mountain, Peak Success, is the prominent one. Crater Peak is entirely hidden by it, and Tahoma Peak, the north peak, is barely visible, and from this point devoid of interest and significance. Peak Success and its slopes—on the southern side in reality, although to the eastward as we gaze at it—is a boundless expanse of ice and snow, thousands of feet high, thousands of feet across. On the west, the mountain is much more precipitous, and thrusting themselves through the snow-fields, which appear to lie at far steeper angles than on the other side, are large masses of black, angular rocks.

Leading down toward us from the brow of the peak, comes a long, irregular, jagged vertebrae of rock, thousands of feet in length. So far as published accounts show, this ridge was the route by which General (then Lieutenant) Kautz and party made their ascent. At places these rocks apparently assume the position of vertical ledges. It is impossible, however, at the springs, to determine with accuracy whether this ridge can now be scaled. Only actual efforts to do it can decide the question.

LONGMIRE'S TO PARADISE PARK.

From Longmire's into Paradise Park the road is succeeded by a mountain trail. This is usually traversed afoot, because a good part of it is a switch-back or zigzag up a steep mountain slope. It can be, and often is, traveled on horseback. The distance from the springs to the usual camping spots in the park is between six and seven miles, and the difference in elevation about 3,000 feet.

Leaving the springs the trail strikes directly into the timber. For the first three miles or more, to the crossing of the Nesqually, it is an easy

and pleasant one. The foliage, as heretofore, is interesting, the huge trees garlanded with festoons of moss being still a conspicuous feature.

The route is along the north bank of the Nesqually, in a deep gorge in the mountains, at least partially cut by the rapid stream. Across from it rises a wild, craggy range, the Tatoisch. The western end of it, Eagle Peak, a splendid sharp rock, juts heavenward to a dizzy height. When the Nesqually is reached, a wonderful scene is presented. To one who has never before seen such an one — and one may see hundreds of mountain torrents and *not* see such as this — there is a great unfolding of the prodigious power of such a stream.

The width of the river proper is only fifty feet or such a matter, but the width of the stream bed, where at one time or another the torrent has torn along, is all of an eighth of a mile across. At the extreme western side of it — the hither side — a very small part of the river now flows, but the stream proper, 99 per cent of it, is at the other side of the channel, hugging closely the base of the mountain.

The middle of this channel or river bed reached, one gazes about him in silent astonishment. He has often heard and read of the almost unmeasurable power of water. I never before, felt so forcibly the utter inadequacy of language to describe, to convey to the reader correct and actual impressions — ideas that really carried with them some sense of the actual conditions, or facts described — as I did here.

We were in the midst of a perfect sea of boulders, or shingle. Of all sizes, too — large and heavy, requiring a derrick to lift one, down to a small, round stone, easily hurled from where we stood to either shore. As far as the eye could reach this boulder-plain extended, white and beautifully clean from the scouring action of the water.

But it was not the vast area of this formation, nor even its glaring appearance, that caused one to marvel. *It was the manner in which the boulders were placed and laid.* They were not in beds, comparatively level, except here and there. They were in piles, embankments, knolls, natural cairns. They were tumultuously heaped and piled in all directions. The entire mass was one immense system of hillocks and hollows, banks and gullies, small hills and valleys.

At first I was dazed, and then, as I gradually grasped the idea, observing the same phenomena all about me, the feeling changed to one of wonder and admiration. The meaning of it was as plainly expressed as the printed page expresses the thought of the writer. Here God Almighty was the author; this rocky bed was the page upon which was expressed his meaning, and the Nesqually Glacier and Nesqually River were the agencies through which the work was wrought. If you doubt this, come with me to the verge of the river. How many miles an hour

do you suppose it is tearing along? Twelve or fifteen, or even more. Man would breast its mad current at the risk of his life, and a horse does it certainly at the risk of limb, if not of life.

And listen! No, you don't *have* to listen. That sound you hear you have heard ever since leaving Longmire's, whenever you drew anywhere near the river. If you had no idea then what caused it, you know now. Dull, heavy, hollow, like muttered thunder, a sound is heard up and down the river, louder than the roar of the torrent as it dashes along in great waves, that curl and break back in angry spray. Do you need to ask what it is? Do not these millions of rocks all about you suggest the answer, even before the question is fairly shaped in your mind? It is the fearful current forcing along over its bouldered bottom other and heavy boulders, and they go pounding and knocking along against each other.

The carving power of water upon land; its ability to fashion valleys, plow through mountains, cut down cañons, and to modify and diversify the topography of a region, borrows a new meaning, takes on a new significance as you see what it has done over this boulder-strewn river bed.

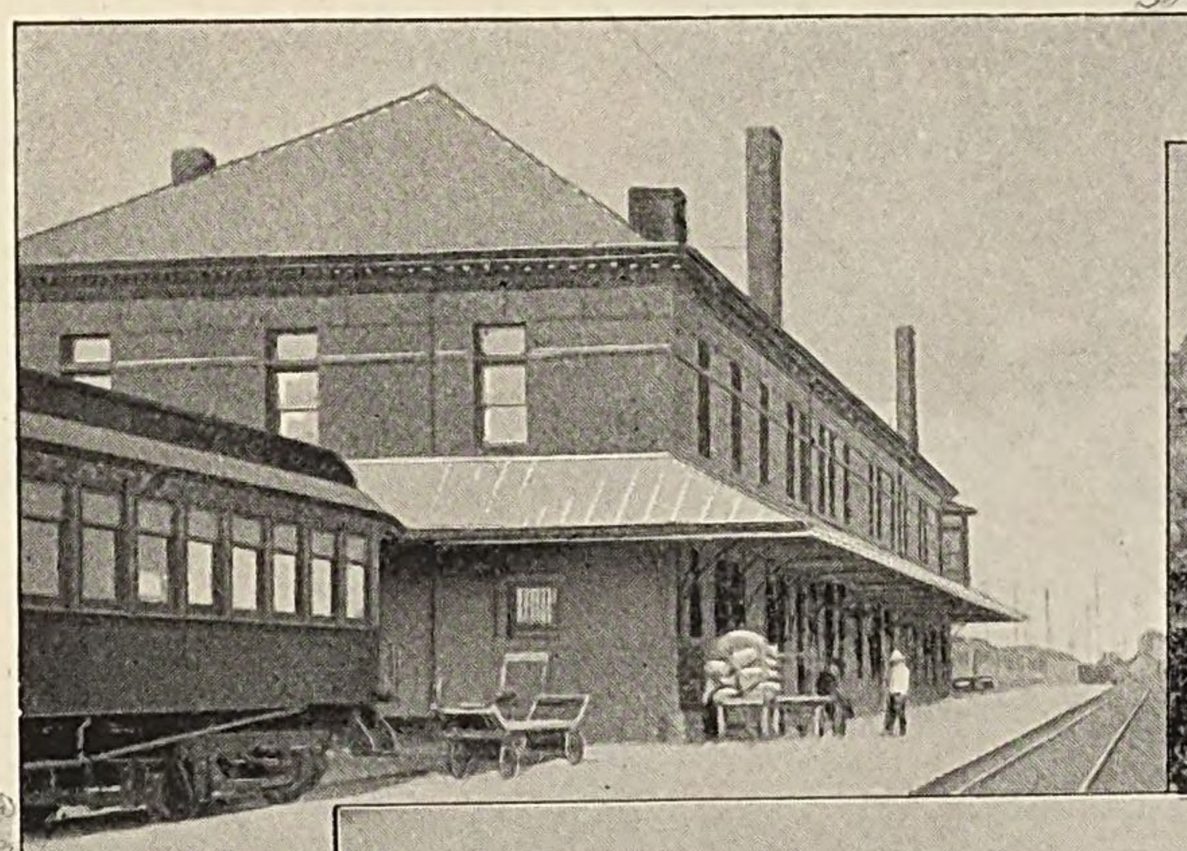
Over the crude affair of a bridge that has been thrown across the raging current, we trudge, and then comes the climb up the mountain. At the summit of the switchback we reach the first snow, and thenceforth the trail leads over snow-plains. The afternoon sun has softened it to such a degree that travel is difficult, and our alpenstocks save us from many slips and falls.

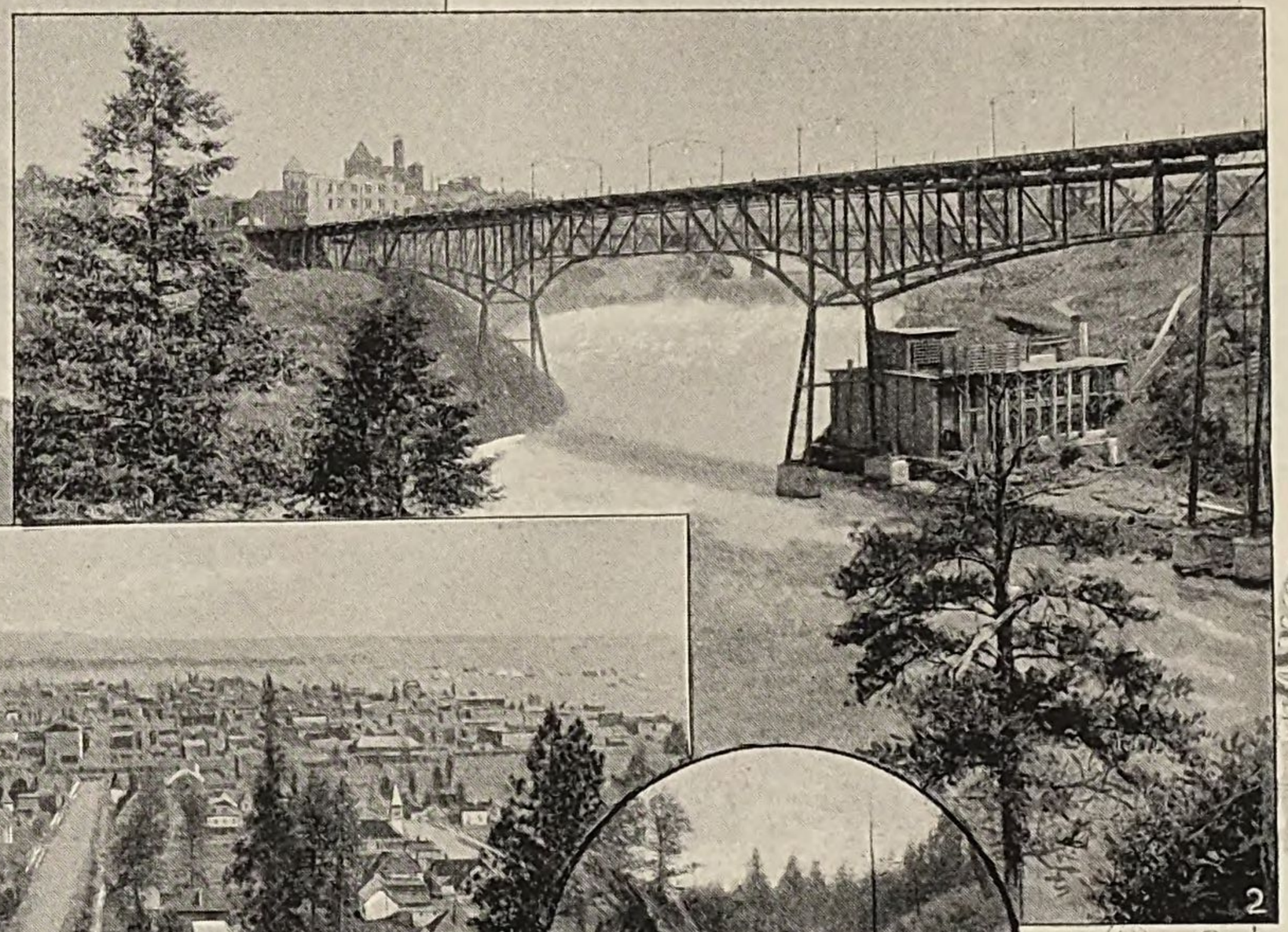
Soon we obtain a glimpse of our tent pitched on an eminence some distance ahead and much higher than we are. We hasten forward, and about 4 P. M. reach our permanent camp.

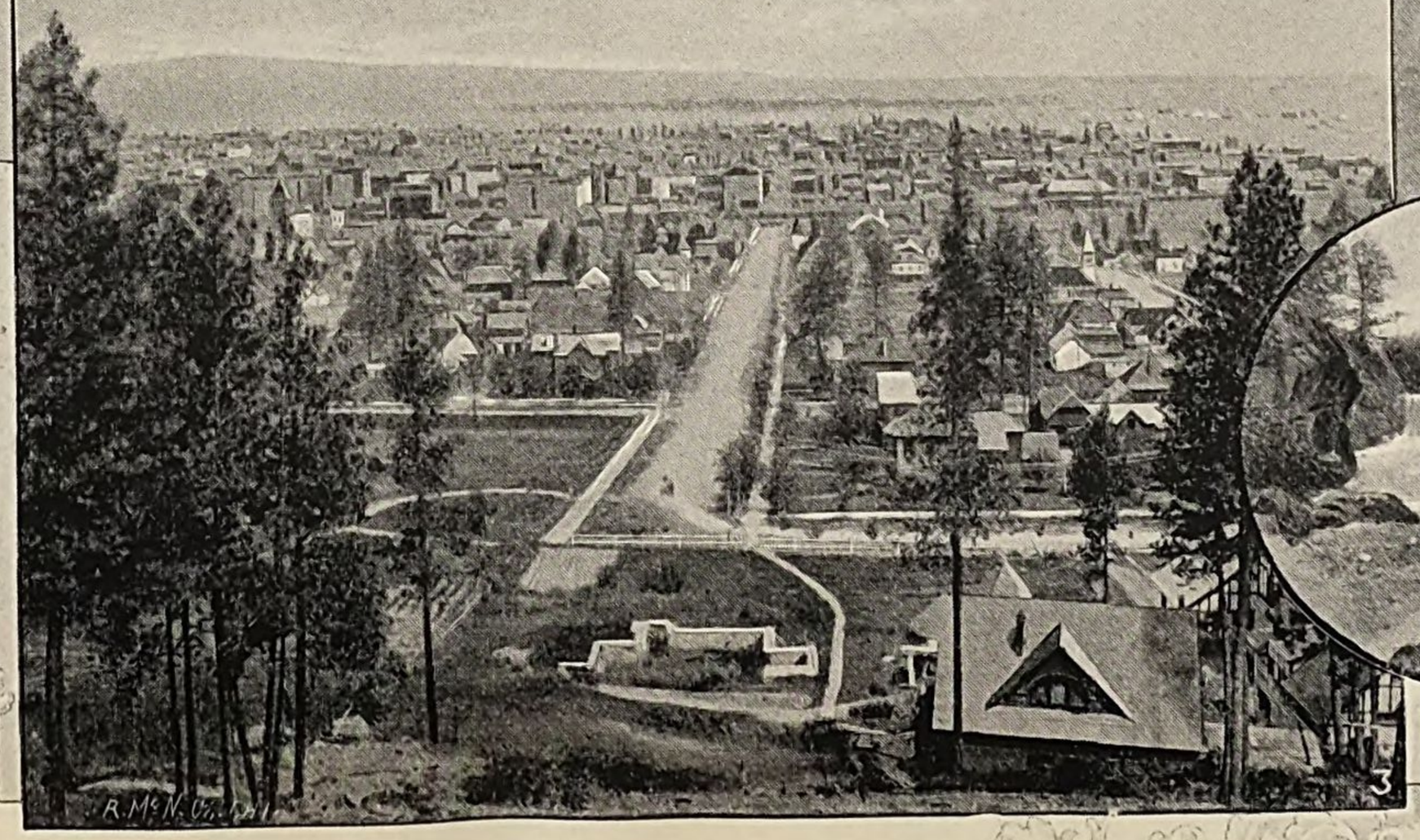
PARADISE PARK.

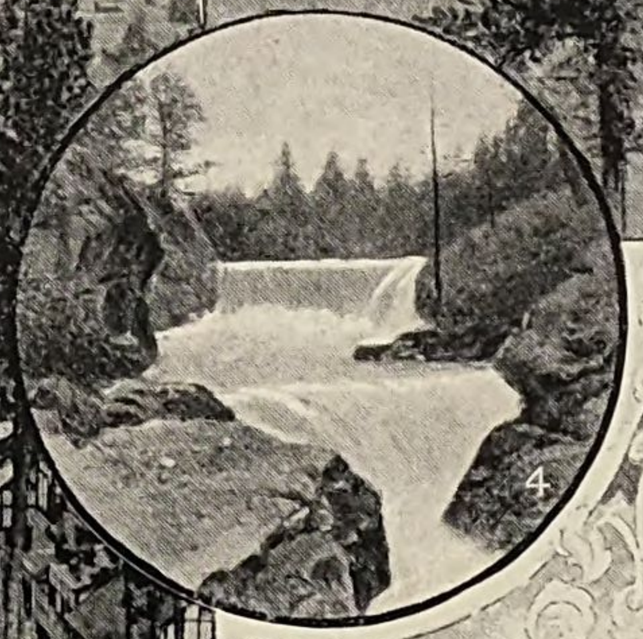
The place thus designated includes, in a general way, all the country between the Nesqually and Cowlitz glaciers on the south side of the mountain, being overlooked by the magnificent range of the Tatoisch on the south. Its longest side — east and west — at the base of the Tatoisch, is perhaps eight miles, and its length north and south on a medial line between the two glaciers, not more than five miles. The region is more generally called, at the present time, Paradise Valley, but this is a most unfortunate name and entirely inappropriate.

It may, however, very suitably be applied to the small valley of the stream that flows from Sluiskin Falls at the base of Paradise Glacier, and winds to its junction with the Nesqually, and which is itself an important and beautiful feature of the greater park. Indeed the stream is known



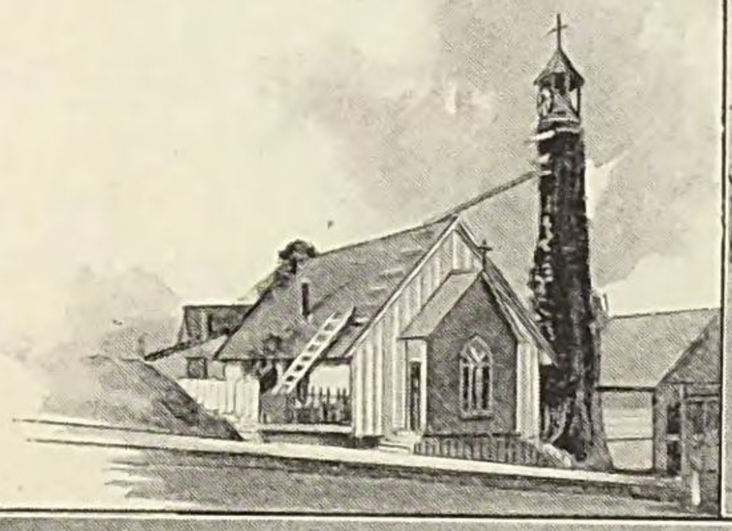


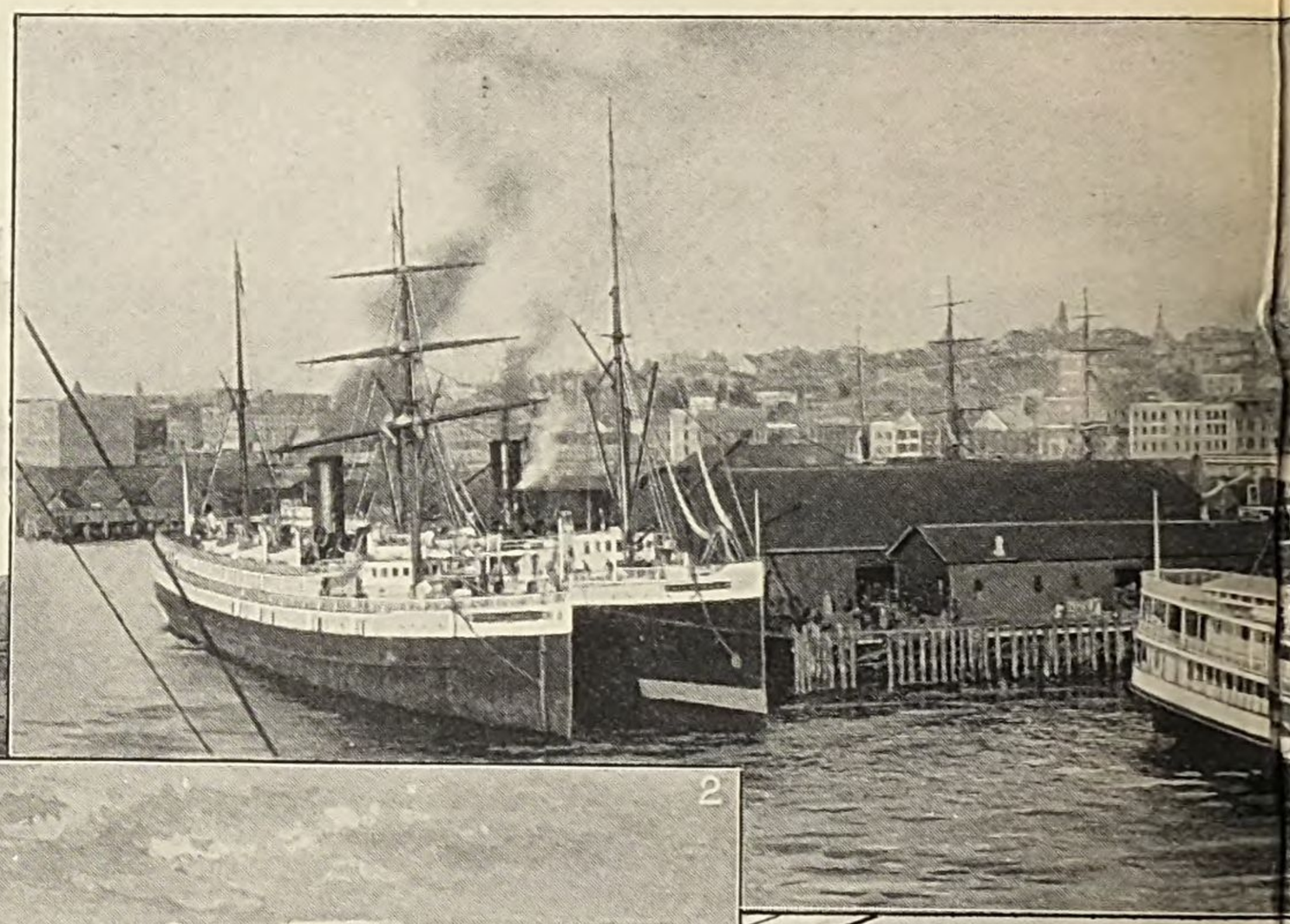


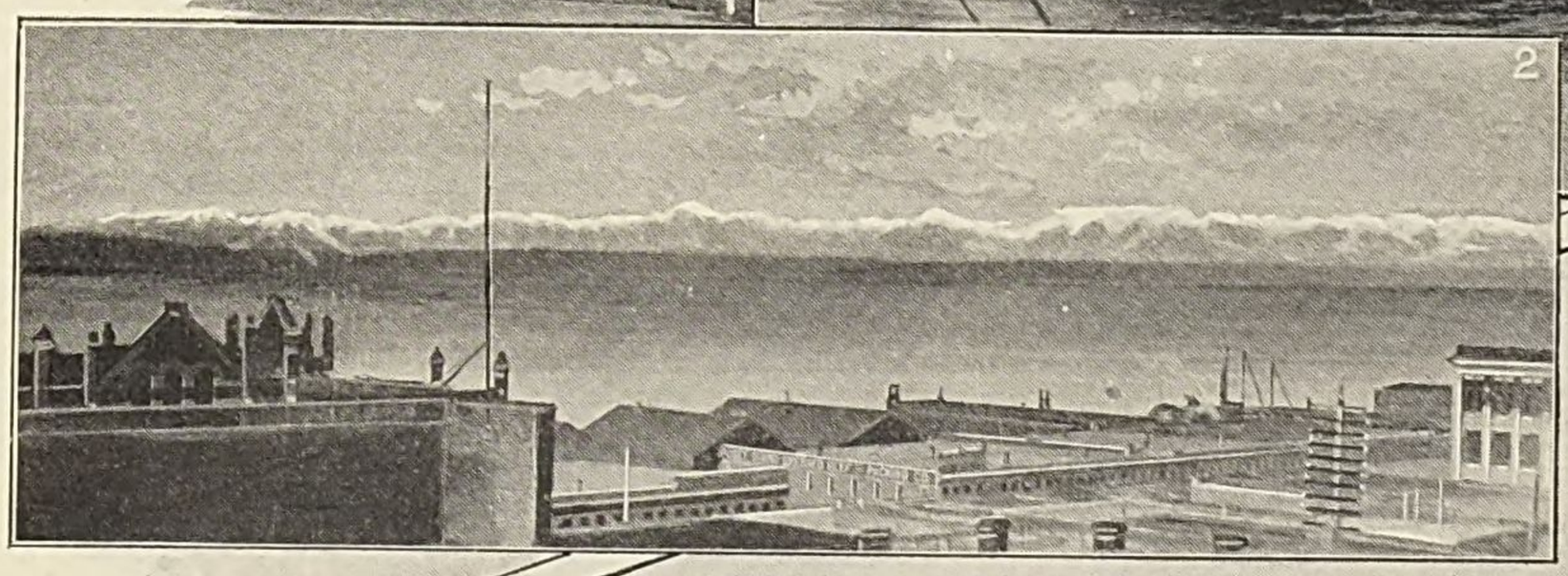


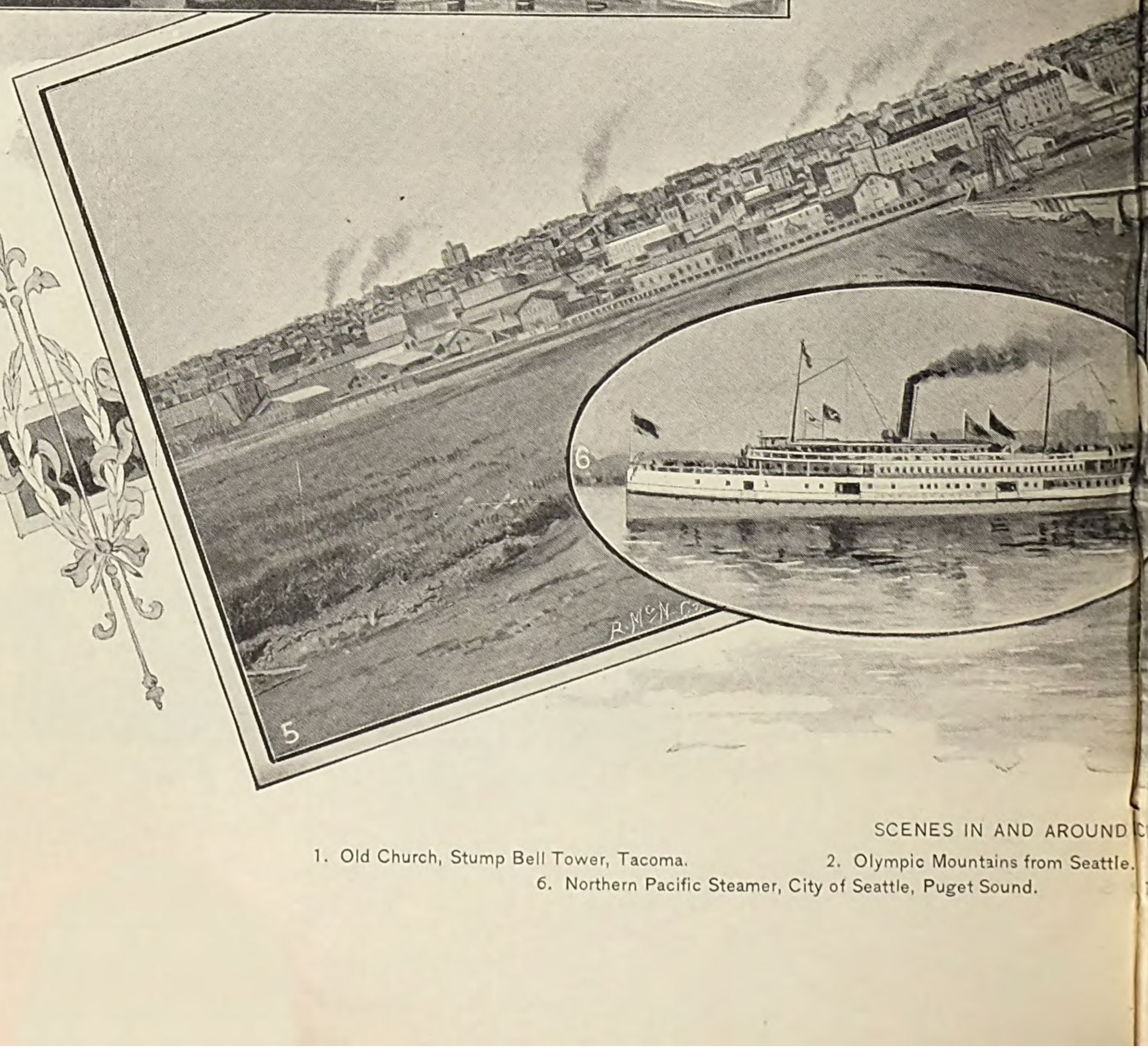
SPOKANE, WASHINGTON.

1. Northern Pacific Railroad Station. 2. Spokane Falls. 3. Spokane. 4. Post Falls.





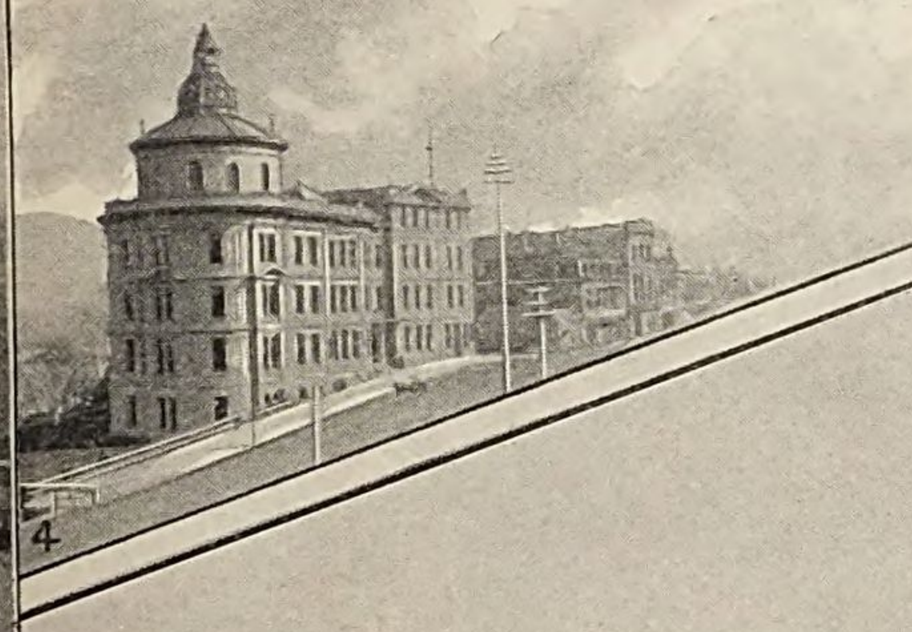




SCENES IN AND AROUND

1. Old Church, Stump Bell Tower, Tacoma.
2. Olympic Mountains from Seattle.
6. Northern Pacific Steamer, City of Seattle, Puget Sound.

3



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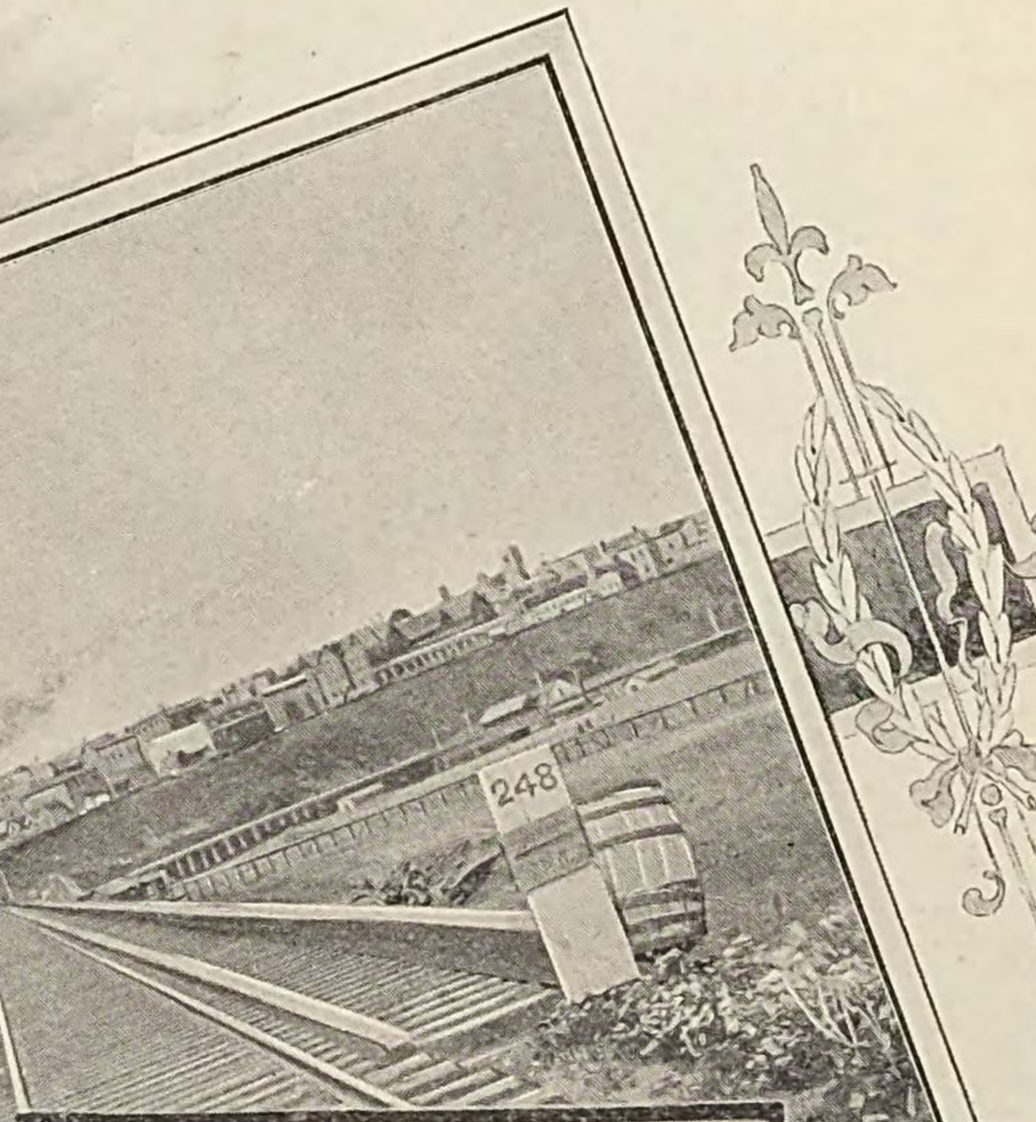

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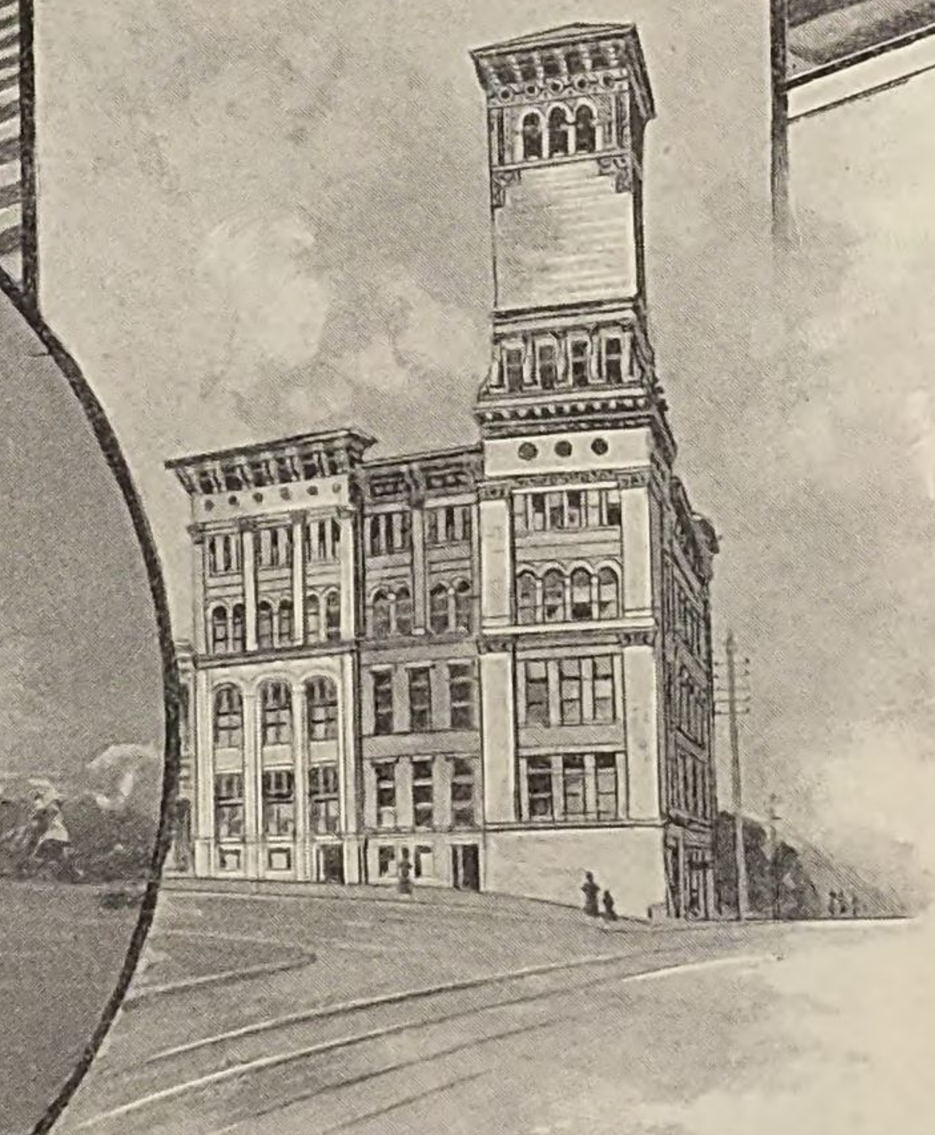

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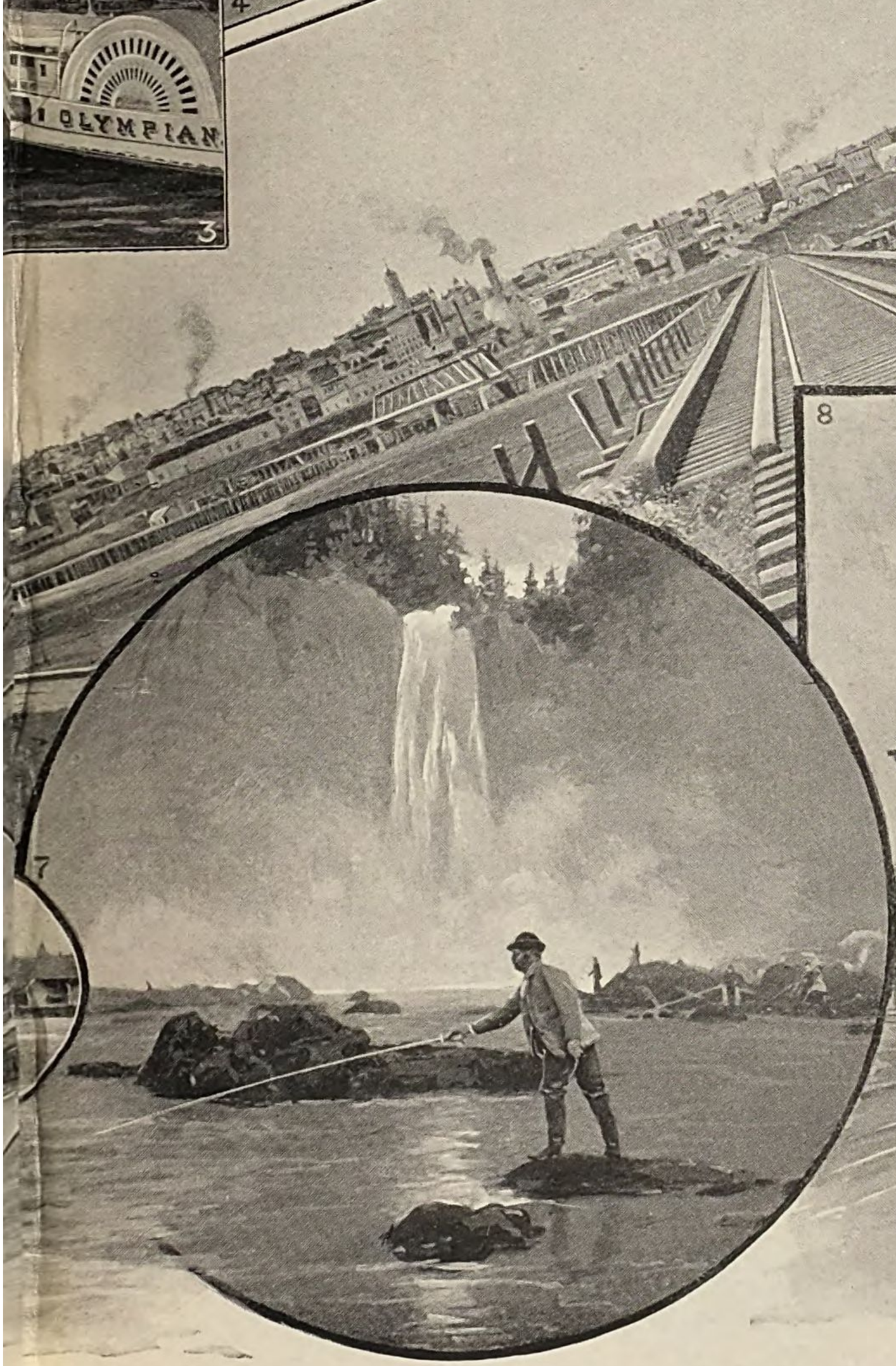
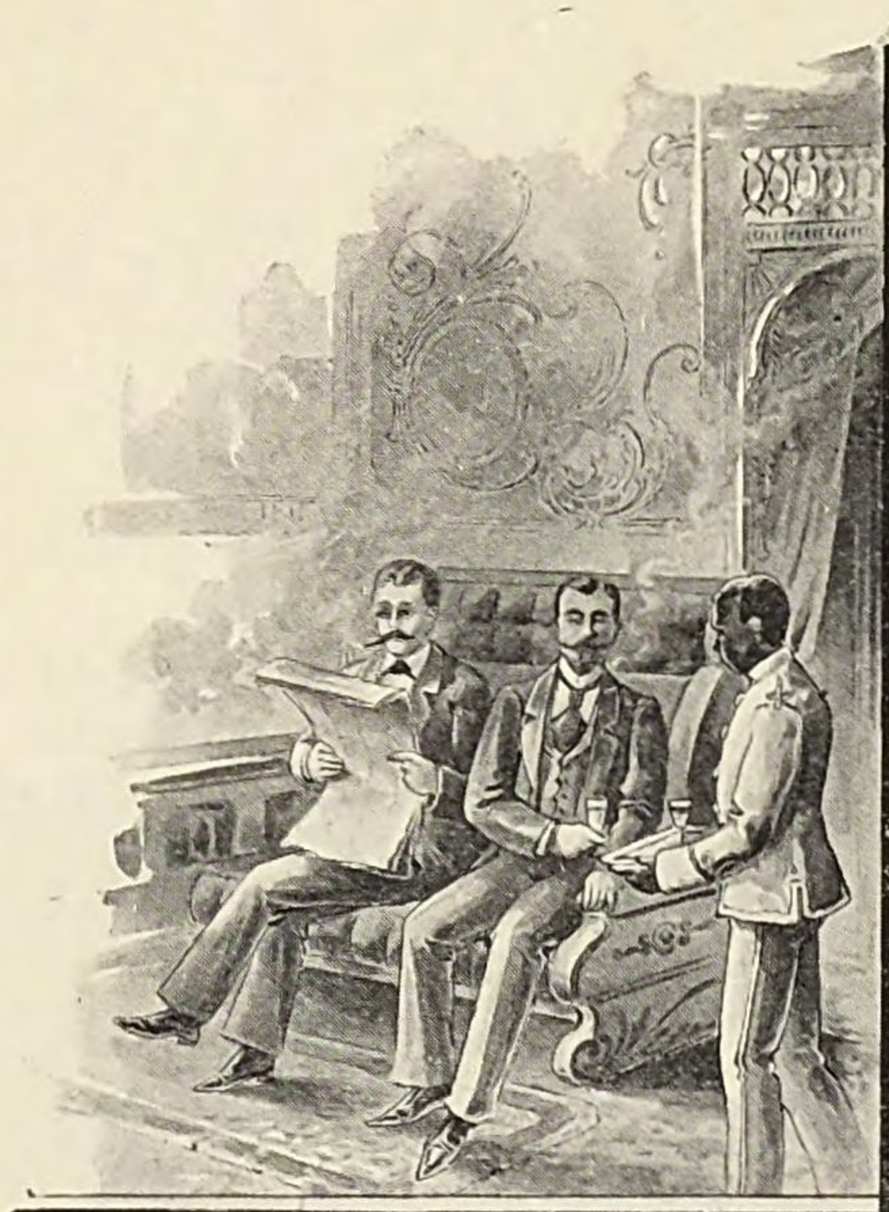
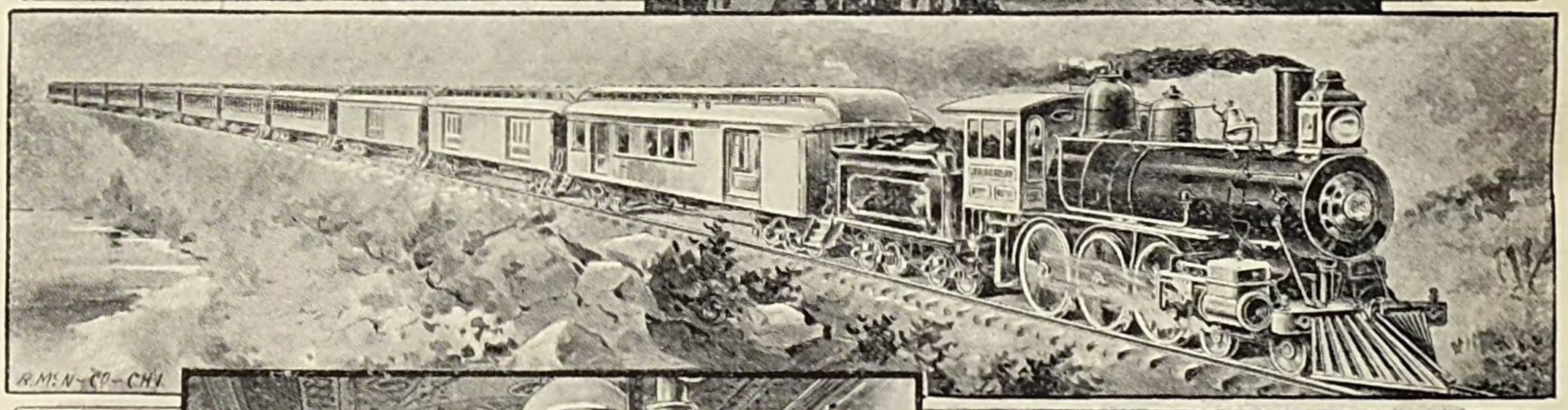


TACOMA AND SEATTLE, WASH.

3. Seattle.
4. N. P. R. R. Offices, Tacoma.
5. Tacoma.
7. Snoqualmie Falls, near Seattle.
8. City Hall, Tacoma.





NORTHERN PACIFIC OVERLAND EXPRESS.

as Paradise River, and by the more thoughtful and discriminating this lovely valley is also called by this name.

The Park is a wild, romantic place. Rivers and brooks dash headlong down the cañons; mountains of striking character hem it in; plains of snow, seemingly illimitable, plunge into cañons over cliffs of ice and snow; waterfalls whose cadences continually sound in the ears, leap from the cliffs in tangled cascades of spray; ridges and hills crowned with evergreens rise at various points. Lakes are recessed in the mountains; glaciers fill the gorges; park spots, ideal camping places, alternate with cedar, fir, and hemlock groves. In nooks and hollows, creeping over the slopes, on the rocks, at the edges of the receding snow, are myriads of wild flowers. The region is rough and broken, but not to such a degree as to prohibit climbing and roaming about. Men and women, boys and girls, will find innumerable excursions to occupy their time, and most of them can be made either afoot or on horseback.

Our camp was established at what is known in the history of the mountain as Camp of the Clouds.

The elevation of this knoll is given as 5,360 feet above sea-level, and considering its comparatively low altitude, the first thought that presents itself is, why is a name that savors of cloudland given to a spot so low down? I confess that at first this was a poser, and I ascribed it to an exuberant fancy. Not so, however. It must be remembered that the locality is on the seaward side of a range of mountains that obstructs the free passage eastward of the moist winds from the Pacific, and thus causes great condensation, or clouds. For days at a time this whole park will be so thickly filled with clouds that objects fifty yards distant will be invisible. While the name thus fits this particular spot much of the time, it would apply equally as well to many other places in Paradise Park.

Camp of the Clouds is a small, narrow ridge or tongue of land that extends from a larger and higher ridge, toward the south. It is on the edge of the western slope of Paradise Valley. Of the many grand views from the spot, the most beautiful is that of Sluiskin Falls in its curvilinear leap into the valley that then, with its swirling river, winds first, westward toward us, then bends to the south, and then again to the west, out of sight down among the frowning, timbered slopes of that magnificent Tatoisch Range, seen from here in all its glory.

The higher ridge back of us lies deeply buried under the snow. The slopes upon both sides of us are slopes of snow, spreading out from the snowy ridge behind. Our knoll is a little island rising out of the snow. The water that we use in cooking, for "the toilet," that we drink, trickles from the snow above, and is caught during the day in holes dug in the

ground. The snow is omnipresent. Look where you will, it is before you. Turn to the north. You see it in the vast, rolling, white plains that sweep back for miles to the base of Gibraltar and are merged in the Nesqually Glacier, that rolls up, up, up, until it is lost in the great white sheet holding the old peak in its icy embrace. Look to the west. There again, in isolated patches, small in comparison with the large fields behind us, but large enough when your trail at noonday leads across their slushy surfaces; there you see them, beautifully contrasted against the groves of evergreens that rise above them. Now turn your eye to that Tatoisch Range again. Did you ever see anything finer than the way those deeply gored flanks are splashed by God's ermine, that fills the cañons, gorges, hollows, and dares to push up even to the very pinnacles themselves, where it lies cold, and white, and still?

Glance down into Paradise Valley, and then back at those glorious cliffs that form that tremendous amphitheater at its head. How white the latter are as they sweep around the curve, and as you look down into the valley you wonder where the river is. I will tell you. It flows down there in the bottom under the ice and snow. At intervals you can see it, and afar down the valley you can discern that it at last breaks free from the ice tunnel. From the foot of Sluiskin Falls, for a mile or more, it is hidden entirely by this universal white blanket.

An odd sight is seen on the eastern slopes of Paradise Valley, and on the flanks of the Tatoisch Range. The inequalities of surface, with the dark ridges, knolls, and higher elevations, set against the hollows and cañons filled with snow, work out strange and even grotesque figures.

At one place a comic valentine sort of Irish Biddy is viciously biting an animal in front of her, that, doubled up in pain is trying to escape. An old hen flying; a woman with closely-clinging skirts dancing a clog dance; a double-humped camel patiently standing; a monstrous negro's foot standing out in the snow in bold relief, are some of the crude figures seen close at hand.

The Tatoisch flanks are very acute and high, and there the snow and rocks form large, wide fields of irregular shapes, rather than profiles of animals and humans. Long, slender, attenuated snow-banks stretch from the base well up to the very tips of some of the craggy peaks.

MOUNT RAINIER FROM CAMP OF THE CLOUDS.

From this point, turn in whatever direction you will, the eye is regaled by a sight new and uncommon. The particular one that transcends all others, the one to which you turn time and again in silence and wonder, never surfeited, never satisfied even, is that of the mountain itself.

As I write, I am 2,000 miles distant from it, and yet it rises before me in all the calm grandeur, the noble dignity, the spacious amplitude, the mighty elevation, that it did when I stood and contemplated its enormous bulk, as it lifted itself, rocks, ice, and snow, nearly 9,000 feet above me.

It is difficult to describe a sight such as this, so as to really convey any idea of the real object to the reader. It is difficult to write of it with any sense of satisfaction to one's self. Only a small part of the whole mountain is visible, large as is that which we do see. It is between three and four miles from Camp of the Clouds to Crater Peak, the highest point, horizontally, and this part of the mountain and all north, west, and east of it, is entirely cut off from view.

Peak Success, the farthest point to the west, stands out in all its alpine and whitened glory, and Gibraltar Rock, the flaming beacon that springs from the Cowlitz Glacier below, is a fitting termination of the mountain to the eastward.

From the apex of Peak Success, the general slope at the top is eastward, the lowest point being reached at the western limit of Gibraltar. From this peak, there extends down nearly to Longmire's Springs a long, rocky ridge, heretofore described, and the one which Kautz climbed. At the springs we faced the comb of this ridge; here we see it in profile. Its drop from the peak is rapid, and as now seen a very rough one.

The slope of the mountain toward us is sharp, abrupt, and it is thousands of feet long. In the vicinity of Gibraltar the character changes. The flanks drop away more and more acutely, until they become a sheer precipice of ice and snow, save for a small tongue or strip that hugs Gibraltar itself, and affords the line of ascent to the summit of Crater Peak.

This region of ice precipices is the head of the Nesqually Glacier, and whether studied at close range or viewed from afar it rivets attention. Here the glacier is practically a wild, tumbling, frozen cascade, or, more truthfully, a congealed cataract. It is warped and broken and twisted. Cracked, fissured, and rent in all directions, it goes tumbling down, a confused mass of heterogeneous shapes and blocks. Fragments of ice are strewn in chaotic confusion over a slope of hardened snow and ice. Large crevasses yawn across the glacier; ragged cliffs of bluish-green ice hang from it; deep cañons are cut into it. Enormous blocks of ice, some angular and jagged and pitched into inconceivable positions, are lodged far down the face of the frozen stream, broken from the impending heights above, and hurled by the inexorable law of gravitation thousands of feet down the mountain. It is a wild, dangerous spot, one that no man in his senses would dare undertake to cross. At intervals during both day and night the thunders of the avalanche are heard, and the

cloud of snow that masks its grosser character can be seen rushing down the declivity, sure death to one caught in its mad career.

DRAINAGE LINES ON THE SNOW.

A peculiarly characteristic feature of the park and a beautiful one, are the multitude of little drainage channels that fret the surface of the snow on the hills and sides of the ravines. They have been hollowed out by the heat of the sun and the slow melting and settling of the snow apparently, and with the small ridges between, the hills seem traversed by a wonderful system of parallel veins. These diminutive canals are one, two, and in a few cases, perhaps, three feet wide. The bottoms of these little trenches are discolored by a reddish substance, and upon digging up a small quantity of the snow with the foot the color becomes a brilliant carmine, and appears at times in considerable quantity.

The almost mathematical accuracy with which these lines follow the contour of the hills, as if an enormous comb had been drawn down the slope, adapting itself to all the lines and sinuosities of the topography, invests them with a singular charm. The regular curves thus formed are of such a graceful, delicate appearance when seen from a distance, and being withal so unexpected and odd, one scarcely tires admiring them.

CAMP-LIFE ON THE MOUNTAIN.

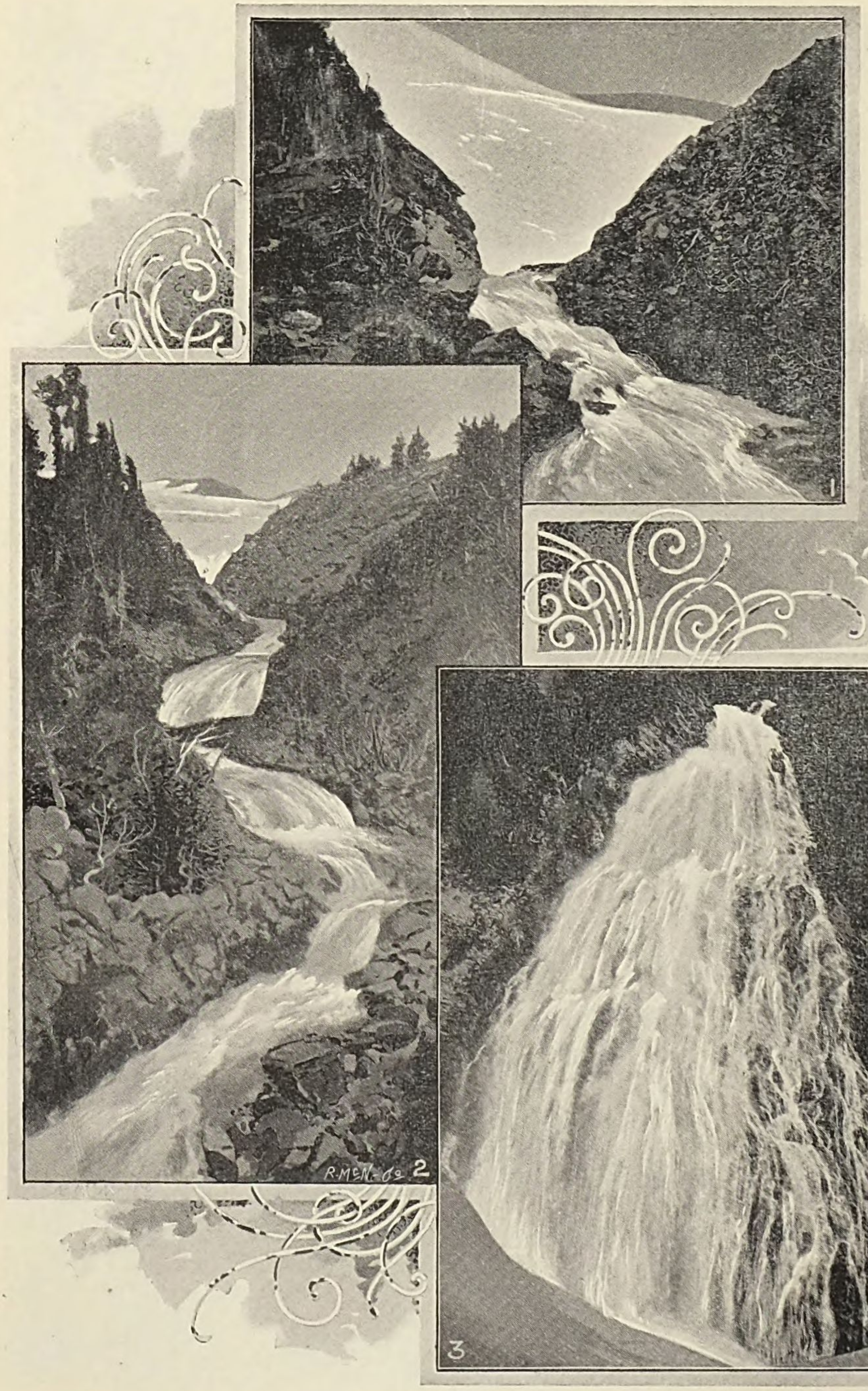
There is nothing like living out-of-doors, scrambling over hills, and sleeping where fresh, pure air is breathed, to take the kinks out of a man and build him up.

Arrived at Camp of the Clouds we find our tent pitched near the center of the ridge in a pleasant spot. To the right stands a fine bunch of balsam trees, twelve in number, and from twenty to thirty feet high. Their trunks are covered with a clean, white bark; the branches form a splendid canopy of evergreens, the tasseled tips of which are beautifully silvered. To one of these trees is fastened the rope which is used as a ridge-pole for the tent, and to another balsam forty feet high farther up the hill the other end is secured.

Just below the tent, in front of the entrance, lies deeply buried in the ground a monstrous boulder. A visual search for the ledge from whence it came, discovers it on a hill a quarter of a mile north of and much higher than our camp.

A few rods above us are encamped Mr. Geo. H. Walker and party of five from Tacoma, while about the same distance below are Prof. J. B. Flett and four others, also from Tacoma.

DISTANT VIEW OF MOUNT RAINIER.



PARADISE RIVER AND SLUISKIN FALLS.

1. Paradise Glacier. 2. Paradise Glacier and River. 3. Sluiskin Falls.

As indicating the growing tendency among educators to visit this region, it may be noted that besides Professor Flett, a botanist and geologist from Tacoma, Professor Shedd of Pillsbury Academy, Owatonna, Minn., was one of the members of the Walker party.

Soon after our own arrival, Mr. Arthur French, a photographer, from Tacoma, and companions appeared — three men, well loaded, and burned and bronzed to the utmost.

The day succeeding our arrival was perfect. The whole region was flooded by the warm, but not hot, sunlight. This with the breeze sent the clouds that seemed ever hovering round, scudding far away. The atmosphere was of that startling clearness that objects at a great distance appear close at hand and marvelously distinct. The sound of the falling waters at Sluiskin Falls rose and fell on the breeze in the delightful crescendos and diminuendos that nature alone can give. The enthusiasm and exhilaration begotten of the place filled us to overflowing.

It was a superb sight to watch the movement of the clouds that fine day. If the wind for a time was quiescent, they would come rolling up from the gorge of the Nesqually in stately, majestic procession. In expanded, balloon-like spheres, or tremendous waves jumbled together, they swept onward, rising higher and higher, apparently invincible. They crowded in among the recesses, and ranged high up among the stormy battlements of the Tatoisch, leaving only the sharp, keenly pointed peaks floating on the vapory ocean. This on one side of the park. Above us they boldly crowded around Peak Success, and in the twinkling of an eye the mighty monarch of the Cascades was enveloped in a misty wraith, dark and chill. Between the two ranges, other clouds, some from the flanks of the great armies that sailed along the mountains' slopes; others from a rearward force, watching an opening to press forward, floated in silently, beautifully misting the highlands and tree-tops. Yet others, heavier laden, perhaps, with moisture, stole furtively down into the lowlands, where they hovered over the streamlets and valleys, showering gently the beautiful flowers, the green plants, the mountain grasses. Vision is obscured — everything is hidden by the all-prevalent vapor. Sound is deadened. Not only unseen is Sluiskin Falls, but the restless, wavering sound of its descending volume is absolutely unheard. Alone, gaunt specters in a silent, spectral sea, we seem entirely cut off, utterly aloof, banished from our kind.

Ah! a sound, dull, muffled, distant, breaks upon the ear. Louder it grows and then gradually subsides into faint mutterings, then once more quiet broods over all, and we know that another avalanche has fallen.

After hearing it now, under such ghostly, unnatural conditions, do

you feel surprise that the Indians fear the mountain and its angry Manitou or Spirit, and will not approach the peak itself, scarcely nearer than where we now are?

In August, 1870—twenty-four years ago this very month—Van Trump and Stevens made their camp on the cliffs above Sluiskin Falls. Old Sluiskin, their Indian guide, after whom they named the waterfall, finding that they really proposed ascending the mountain, with much earnestness and pathos endeavored to dissuade them.

The mountain was enchanted, he told them, the abode of an evil spirit in a fiery lake on its summit. The way was long, over loose rocks and snow-slopes so steep that the mountain-goat could not climb them. Avalanches would engulf the offender of the awful being at the top; a furious tempest continually swept the summit that would hurl the unfortunate man, that should by any possibility reach it, through the air and dash him to pieces. No Indian had ever been there, and no one *could* ascend the peak and live. Finding them unmoved, the Indian chanted a dirge for them late into the night.

As we sit about the fire, engulfed in clammy mist, and hear the ominous roar of the avalanche, we can almost believe that Sluiskin's Manitou does live, and is warning us not to commit the sacrilege against which the Indian warned Van Trump and his companion.

But the hour of hours of those camp days is around the camp-fire at night, when the day's schemes are ended with the day. The fuel of dried and green limbs and chunks which has been gathered and garnered, is now thrown upon the fire and the blaze burns up strong and hot from the sun-bleached logs, and leaps and sparkles and crackles from the green, greasy cedar or balsam limbs. Then the commingling of wit and mirth, anecdote and repartee, begin and flow on and on far into the evening. Then, too, in more serious moments, we discuss our plans for the great trip to come, when camp and its comforts are behind us and the icy dome of the king of peaks ahead.

A soft rush of music is heard. The members of the Walker party are all fine singers, and now, in this isolated spot, a spectral mountain behind us, looming up in pale, supernatural effulgence; far to the front, the ragged line of the Tatoisch, dark, yet streaked with white, rising dimly through the wan night; about us ghostly snow-fields falling away into the black balsam groves; the fire casting long, bright shafts of light midst the dark branches of the trees above; here, far from home, friends, gayety, and the living world, comes floating out upon the mountain air, plaintively, softly, tremulously, sweetly, that old, touching melody, "Way Down Upon the Suwannee River." It seems to touch the very heart of nature itself. The fire seems to sweep to the

ground, its crackle grow less, the breeze to lull, the very hush of night to increase, the mountains to listen, the moan of Sluiskin's waters to subside. With heads bent toward the flickering flames we listen and think of those "far, far away" as the strain steals about and over us. It is impossible to resist the temptation, and we quietly wend our way to where the singers sit and lie about a roaring fire.

Ah! those fine, long evenings about the camp-fire. Midst the snapping and leaping of the lambent flame, strangers become friends, pessimism is banished, and life assumes a strong, healthy optimism. Fun and jollity, sober talk and reflection, take each their part upon the nightly stage. Man returns to the hum-drum and routine of daily life physically and morally the better for such associations, and his outing becomes an epoch in his career, a reminiscence of delightful fragrance.

FORMER ASCENTS OF MOUNT RAINIER.

The literature of this grand peak, as might be expected, is voluminous. Pamphlets have been printed, newspaper articles by the score been written, scientific journals been laid under tribute, and even such staid and solid publications as *The Nation*, *The Atlantic Monthly*, *Harpers' Weekly*, and *The Review of Reviews* have been glad to add to the glory and spread abroad the fame of TA-HO-MA, "the snow-covered mountain."

Out of this mass of material we trace the history of attempts to scale the mountain, and find a perfect mine of thrilling adventure, incident, scientific fact, and hair-breadth escape, but, singular to relate, scarcely an accident.

Some of the ascents of the mountain deserve being briefly noted.

ASCENT OF LIEUTENANT KAUTZ, 1857.

On July 16, 1857, Lieutenant (since General) A. V. Kautz of the U. S. Army, with Surgeon Craig and privates Carroll and Dogue of the 4th Infantry, made the first attempt to reach the summit. They ascended the long, rocky spur that extends down from Peak Success toward Longmire's Springs, on the southwest side of the mountain.

After attaining an elevation of some 10,000 feet, some of them gave out, but Kautz and Dogue succeeded in working around the brow, or side, of Peak Success to the saddle, or divide, between it and Crater Peak. They had started late in the morning and it was now evening, and they were compelled to hurriedly retrace their steps without standing on the

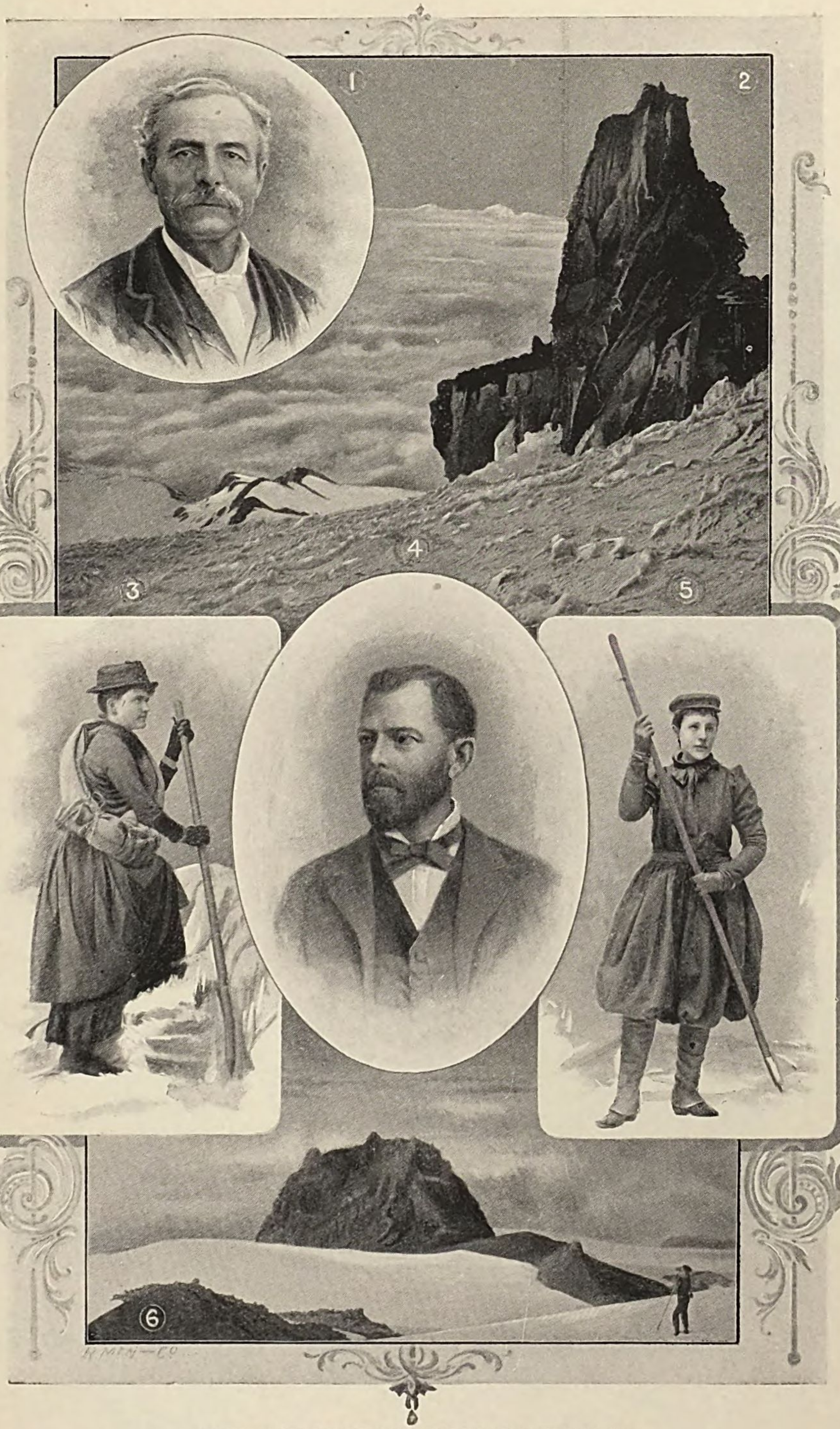
top of either of the three peaks. This fact has occasioned much discussion as to whether Kautz reached the summit or not. From his own published accounts there can be no question that technically he *did not*. But in the broader sense of having safely accomplished the most difficult part of the climb, and having stood upon the extended plateau at the summit, and no obstacles to prevent him from reaching the extreme crest, save only time, he is entitled to, and as I understand it is given, all the credit of the achievement, practically. As he did *not* thus stand on the grand snowy dome that constitutes the extreme point, he loses consequently the glory that falls to the lot of him who first *does* reach it.

STEVENS AND VAN TRUMP FIRST REACH THE SUMMIT, 1870.

August 17, 1870, is the red-letter day of ascents of Mount Rainier. On that day Gen. Hazard Stevens and Philemon B. Van Trump of Olympia, Washington, for the first time known to white men, actually reached the southwest peak, which they named Peak Success, and then climbed the central or eastern peak, which was christened Crater Peak. They discovered the old craters and ice-caves, in one of the latter of which they passed the night. While it was a comfortless one, the discovery of the cave with its jets of hot steam undoubtedly saved their lives. It was too late when the summit was attained to attempt a return to camp, and a night on the mountain, with no blankets or extra clothing, and exposed to cold and the terrific wind that prevailed, meant certain death.

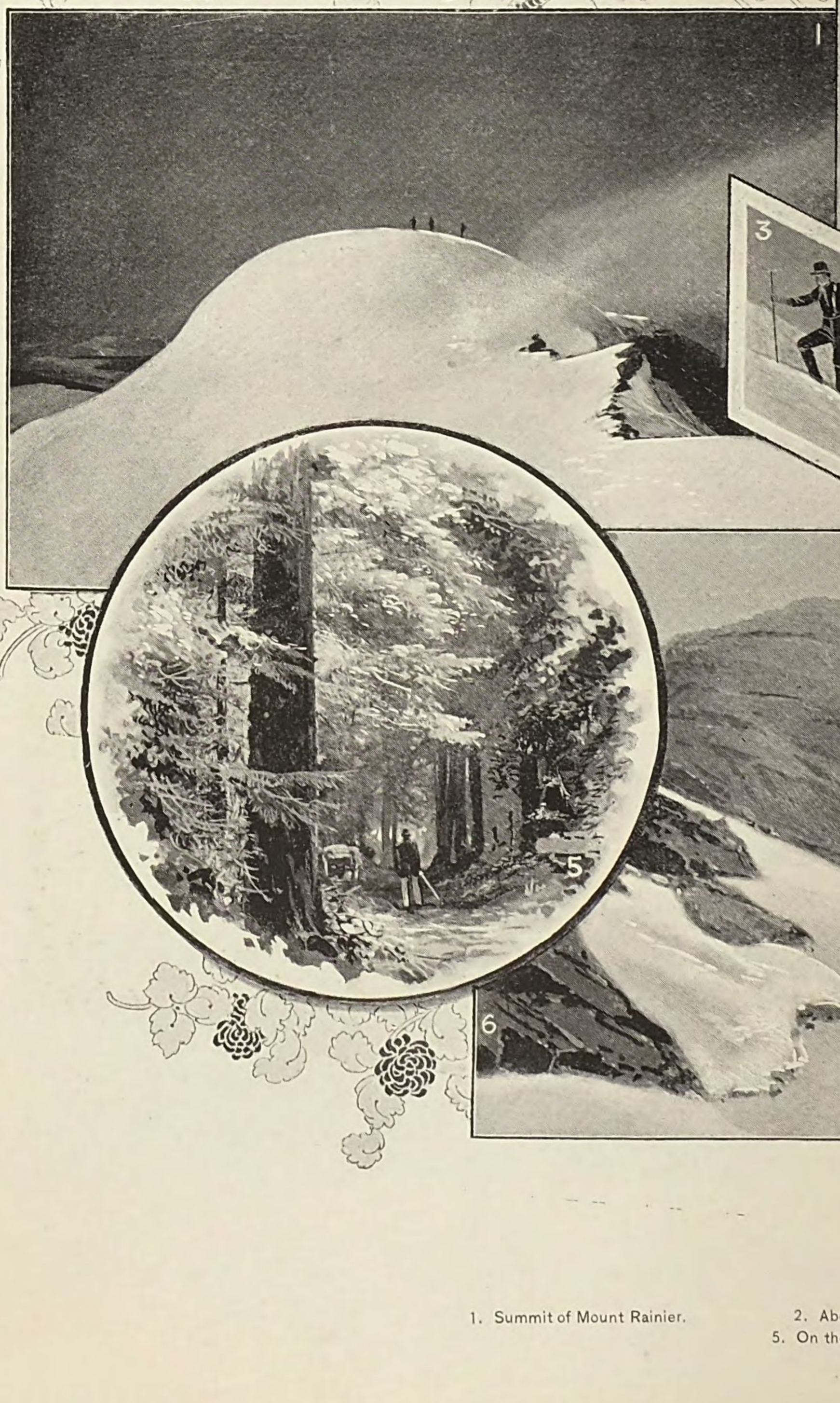
The trip of Stevens and Van Trump was replete with dramatic incident. Guided by Longmire, the veteran woodsman, through the literally trackless forest to the foot of the mountain; finding an Indian camp and hiring old Sluiskin to guide them up well on to the slopes of the peak itself; the vain endeavor of the Indian to induce them to abandon the expedition; and hard climbing, loss of provisions, soaking rains, and a painful, though not serious, accident to Van Trump, made of it a mountain foray ever to be remembered.

P. B. Van Trump is literally the "old man of the mountain," although *not* an old man. Born at Lancaster, Ohio, in 1838, he is now fifty-five years of age. He went to Washington in 1867, and began his career as a mountain climber, as before stated, in 1870. Five times has he climbed to Rainier's summit; four nights has he passed in the ice caves. He has stood upon each of the three summit peaks, and Stevens and Van Trump gave names to them which stand. Success, Crater, and Tahoma peaks form a noble trinity of names, well bestowed, and by those who have well merited the right to bestow them.



SOME ASCENDANTS TO TOP OF MOUNT RAINIER.

1. P. B. Van Trump. 2. At Base of Cowlitz Cleaver. 3. Miss Fay Fuller. 4. Gen. Hazard Stevens.
5. Miss Helen Holmes. 6. Above the Clouds, Mount Rainier.



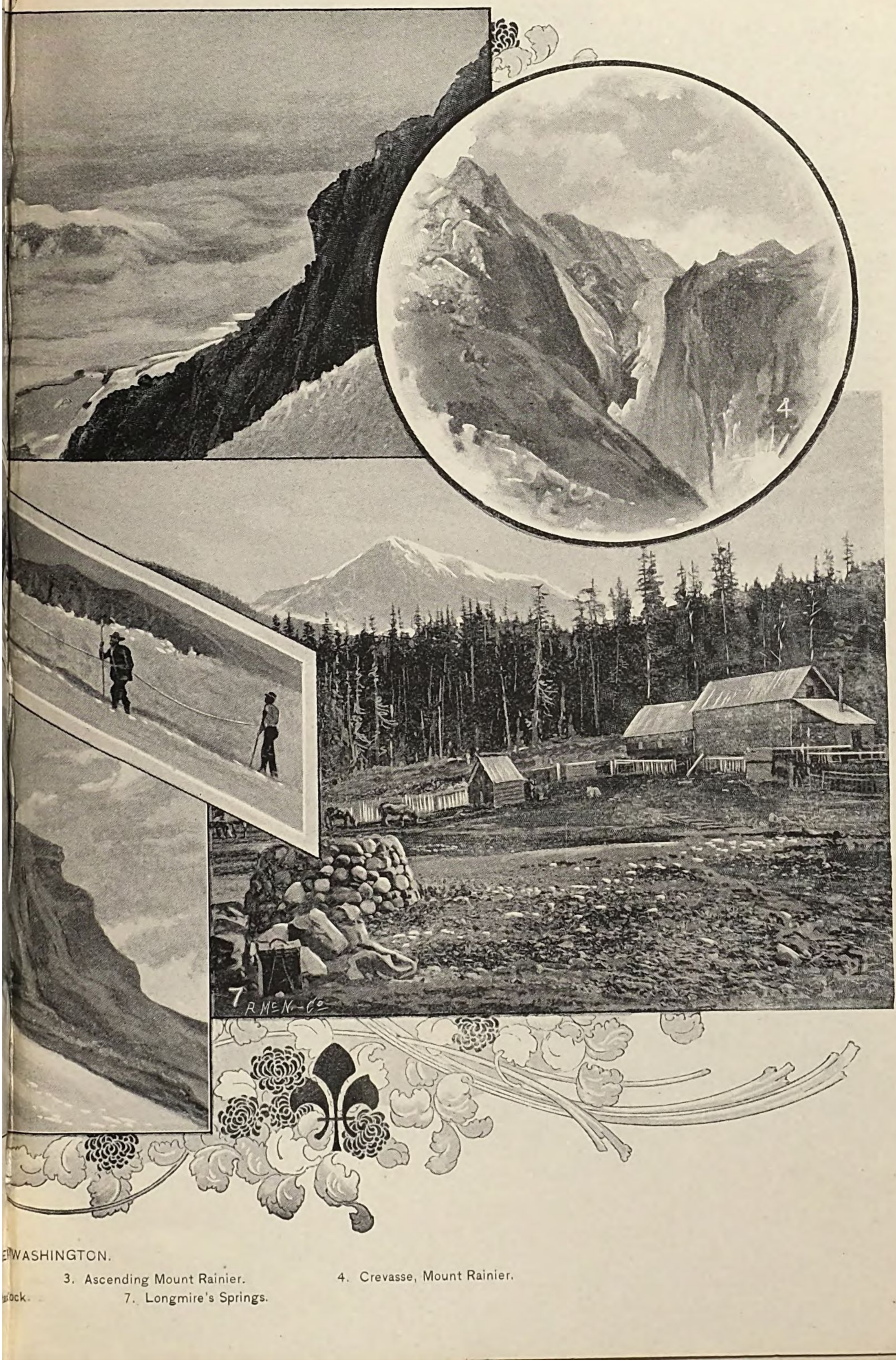
1. Summit of Mount Rainier.

2. Above the Clouds, near Gibraltar.

5. On the Way.

6. Gibralt

MOUNT RAINI



E WASHINGTON.

3. Ascending Mount Rainier.
4. Crevasse, Mount Rainier.
7. Longmire's Springs.

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VIEWS AROUND MOUNT RAINIER.

Van Trump has been to the summit three times by his first or Gibraltar route, the one he thinks best and safest, and twice by the way of Tahoma Glacier, on the western side. In 1891 he went up via this route and down by the Gibraltar trail, thus going over the mountain, and took with him a hound, the first canine ever known to make the ascent.

Van Trump has done more than all others combined to interest his countrymen in the mountain. He is a beautiful writer, and his contributions to the literature of the subject are Alpine classics, full of strength, grace, poetry, and fine thought and feeling.

EMMONS AND WILSON IN 1870.

Exactly two months from the day that Stevens and Van Trump were toiling toward the pinnacle of Rainier, or on October 17, 1870, S. F. Emmons and A. D. Wilson, a geologist and topographer of the U. S. 40th Parallel Survey, were engaged in the same arduous endeavor.

This ascent is noteworthy for two reasons. First, it was made so late in the season, October being usually a month of storms and snow; second, Mr. Emmons' statements anent the craters are materially different from the observations of others.

INGRAHAM AND MUIR, 1888.

In August, 1888, a party of seven, including and guided by the inde fatigable Van Trump, stood upon the apex of the mountain. This was known as the Ingraham-Muir party, Mr. E. S. Ingraham of Seattle and John Muir, the celebrated geologist and glacialist, being the two more prominent gentlemen. This party is noted as being the first one that *did not* spend a night on the summit. Mr. Ingraham has since made two ascents of the peak.

THE FIRST WOMAN AT THE SUMMIT, 1890.

August 10, 1890, is noted in the annals of the mountain as being the time when the cloud-swept summit of Rainier was first trod by the dainty foot of a woman. On that day a party of five, four men and one young lady, led by Rev. E. C. Smith of Seattle, reached the top and remained that night in an ice cave. Miss Fay Fuller of Tacoma is the young lady who is distinguished as being the first of her sex to attempt and succeed in accomplishing this feat. She wrote out a very interesting account of her experiences, and has since developed into a veteran mountaineer.

RILEY, VAN TRUMP, AND BAYLEY, 1892.

Between 1890 and 1892 several parties succeeded in reaching the crest of the old monarch. In 1891 Dr. W. Riley of Olympia and Van Trump endeavored to scale the north, or Tahoma, peak, but were unsuccessful. In 1892 both succeeded, but not together. Doctor Riley, with a small party, early in August, was the first to stand upon Tahoma Peak. On August 22, 1892, Van Trump and Bayley, after climbing the day previous up the west side of the mountain and reaching the crater cave at eleven o'clock at night, having climbed the steepest ice ascent after the sun went down and when only the stars lighted them on their way, reached the top of the north, or Tahoma, peak.

In their descent, Bayley slipped at a bad place in the ice, and, unable to catch himself or check his fall, rolled over and over and then attained a sitting posture, and at lightning speed went sliding down the glacier, leaving Van Trump motionless, spellbound with horror. For 2,000 feet his wild, unchecked slide continued toward a yawning crevasse. All efforts to stop short of this were unsuccessful, and he was hurled over and into it. When Van Trump, after most careful climbing, reached the point and called the name of his friend, to his great joy and surprise he was answered. Bayley's body struck the opposite side of the crevasse in his descent, and then fell sixty feet to an ice-shelf below. Badly bruised and several broken ribs were the results of this wild tobogganing, and this is the only serious accident that has ever befallen any alpine climber on this peak. Van Trump was able to help his friend out, with the aid of his rope, and assist him down to camp at 11,000 feet above sea-level, whence within a few days they were able to reach a ranch on the Nesqually River, where rest and medical attendance were obtained.

INGRAHAM, 1894.

July 9, Major E. S. Ingraham, at the head of a party of fourteen, left Seattle, again bound for the icy apex of Tacoma. July 18th they were at the top, where they remained more than twenty-six hours. They enjoyed the luxury of a hail and snow storm, with thunder and lightning accompaniment. There were three ladies with Mr. Ingraham, the first who dared the dangers of the ascent since Miss Fuller's attempt four years before. These ladies were Miss Annie Hall, Miss M. Bernice Parke, and Miss Helen Holmes, the latter a plucky little Miss of but fifteen years.

Ingraham took homing pigeons to the summit. One of them, liberated below Gibraltar Rock, reached home safely, but the other refused to make

the attempt until Camp of the Clouds was reached, after the descent, when it finally left them, and reached its perch in due time.

THE PUSH FOR THE SUMMIT.

CAMP OF THE CLOUDS TO THE COWLITZ CLEAVER.

In maturing our plans we had decided to make the great climb on the Tuesday following our arrival.

Sunday and Monday we were held fast in camp by the prevalence of masses of vapor that effectually hid every semblance of valley or mountain. On Monday morning it was thought wise for Sarvent to carry one of the larger packs up to Gibraltar that day, so that the burdens on the morrow might be lessened. Sarvent left us about 10 o'clock A. M. and was soon lost in the mist. At dark he returned, and reported having gotten above the clouds at about 8,000 feet. From thence the atmosphere was bright and warm.

When daylight appeared the following morning, it was seen that heavy, damp clouds still enveloped us. But as we knew that "above the clouds the sun was shining," it rather added to our anticipation to feel that, while we would not, like Joe Hooker at Lookout Mountain, be fighting above the clouds, we would be climbing through and then above them, and have thus a double experience to look back upon. And that is exactly what happened. For about 3,000 feet we trudged upward, surrounded by curtains of mist that refused to dissipate.

We left Camp of the Clouds at 10 o'clock A. M., the party now increased to seven. As became his position as guide, Sarvent took the advance, and the others strung out behind, following largely in his tracks. Each man had a pack on his back. These were made up of provisions and blankets, with some extra clothing, and were encased in canvas knapsacks made for the purpose, and having arm-straps. We were of course warmly clad. The soles and heels of our shoes had sharp spikes about half an inch long driven into them, covering the surface of the bottom of the shoe, and affording secure footing on the ice. The glare of the sun on snow and ice was trifling throughout the climb, and none of us smeared our faces with charcoal and vaseline, as is customary, or used goggles, and we returned comparatively little sunburned and with no cracked and bleeding lips. Our noses suffered the most, and these were burned so that the usual process of exfoliation was undergone.

The alpenstock was an important part of our outfit. These were of strong, tough wood, with iron or steel spikes at the bottom end. Two hundred feet of the very best window-sash cord completed our special

outfit for the ascent, save an aneroid barometer I carried, not for its actual value, but for its relative value in the elevations we might note.

We started with the best wishes of our friends left behind, and climbed the snow-hill above camp, from which we soon descended to a snow-field that led to a steep, rocky hill and ridge. This we attacked in a sideling fashion, climbing now a little way on snow, then on the ground, and again among rocks. For some time this was our course, and our route alternated between snow-plains and rocky ground. The snow was wet and soft, and on this account the rocks, which were usually not massive, made much the better footing. Fortunately we all proved to be in good climbing condition and no one lagged behind. We thus made good progress, but halted frequently for short intervals of rest and to blow. About a mile from our starting point and several hundred feet above it, we mount the last ridge and now strike out over a wide, whitened plain of snow. Here, too, at about 6,000 feet above the sea, the timber line is reached and left behind. After a long pull, at 12.45 P. M. we reach a lava ridge thrust up in a bald, jagged way through the snow. Through the clouds we have heard the tinkling of a stream we could not see. When we reach it we find it proceeds from the melting snow, and is very small. As it drops from rock to rock the sound at this elevation, and on these ringing volcanic rocks, is clear and musical.

We are hungry, and the first hours of climbing in the morning are always the hardest, so we cast our packs upon the rocks and by the side of the tiny brook and to its musical drip, drip, drip, eat our cold lunch. Our elevation is about 8,000 feet, and we are still in cloudland. The atmosphere is damp, and misting heavily. Soon the mist changes to fine, granular snow-flakes, and these again into pellets of hail. All this within the space of a few minutes. The sun begins to make an impression, however, on the aqueous vapor. The stratum of clouds grows thinner and they drift about in a spirit of unrest. Through the occasional rifts we see the strata below us banked in magnificent masses of cumuli.

And the Tatoisch! Will the memory of that black and white, startling, turreted range and its varying appearance ever fade? Never tame, never dull, never seen twice alike, from wherever man's eyes beheld it, it dared him, as it rose before him, mighty, gigantic, abrupt, cragged, and snow-slashed, to find adjectives to fitly characterize it. Now, conjoined with the fleecy battalions hurled in precipitate flight from Rainier's brow far down the slopes, it took on a new and glorified light.

In prodigious masses of thick white and gray, the aqueous particles crowded against the foot of the range. Far to the west, away down the valley and the lower Tatoisch, the great banks of floating water push their way. Not content with this, they rolled up the slopes, crowding

into every cañon, impinging upon every bluff, encircling every crag. Here and there a black, rocky precipice protruded its angry nose through the white blanket, and a great tongue of snow would gleam faintly through the mist covering, *so* faintly that it was impossible to discern where snow faded into cloud.

As the vapors were wafted higher they stretched to the east among the cliffs, cañons, and continuing range that succeeded the Tatoisch. Completely as the clouds covered the scene, their dominion was not universal. A high range is the Tatoisch. And as high as the clouds reached, the crags reached higher. Thrusting their bare, jagged points up through the mantle of vapor, ruthlessly piercing its filmy folds, the magnificent obelisks of the range rose triumphant, and one could almost expect to hear wafted from them, across the intervening space to the great peak that rose behind us, the shout of the victor.

One can go from the Camp of the Clouds to the Cowlitz Cleaver without putting foot to the ground. There really extends down from the Cleaver a field of snow of enormous extent that comprises plains, cliffs, and precipices. Dotting this extended field are islands, usually of bare lava, in a few cases at the lower extremity, scantily clothed with trees and verdure. These islands appear to be points of ridges punched through the snow, and are for the most part decidedly sharp, and composed of small lava rocks. The lavas found here are most interesting in appearance. They are of different colors, some of a pink or reddish-pink, some of them drab, and then a lot of it black or brown. Pieces of it seemed to have flaked off from larger masses; others were exquisitely banded, and still other pieces were polished almost as finely as if from a lapidary's lathe.

In our ascent thus far we had made use of most of these rock oases or islands that came in our way, but we at last reached a point where there were none. In all directions nothing, save snow, snow.

The snow that falls on the higher parts of a mountain undergoes a double change before it becomes a glacier proper. Professor Geike says: "The snow in the higher regions is loose and granular. As it moves downward it becomes firmer, passing into the condition of *nevé*, or *firn*. Gradually as the separate granules are pressed together and the air is squeezed out, the mass assumes the character of blue, compact, crystalline ice."

Our route now led over and across an ascending plain of *nevé* ice that seemed limitless. It reached from the Nesqually Glacier on the west to the Cowlitz on the east. It was nearly the middle of the afternoon when we started out upon it, and it was evening when we reached the foot of the Cleaver, and we toiled steadily on all the time, with short halts to get our wind. The surface of this *nevé* plain was that of a choppy sea. It was cut up into small concavities or hollows, from two to five feet in

diameter, that made trailing over it hard work. This we found especially the case on the return descent. A peculiarity of this particular *nevé* field was the fact that our vision was so circumscribed that we appeared to make no progress. There was ever just ahead of us a rounded white brow that neither advanced nor retreated, but remained just the same. It was at times a little discouraging not to be able to see anything but that cold round line extending to right and left as far as one could see.

Pushing out from Gibraltar Rock, and nearly at right angles to it in a south-southeast direction, runs a sharp knife-like ridge, wide at the base, generally narrow, sometimes a knife-edge at the top. It rises hundreds and hundreds of feet above the ice plain below; is on one side, for much of the distance, an absolute precipice, and on the other side but a degree or two removed from it. This immense wedge drives straight out between the heads of the Cowlitz and Nesqually glaciers, cleaves its way between, hence the name, Cowlitz Cleaver. Up this rocky wedge we needs must go, and away we start, anxious to see the end of our day's work.

For a little way we travel on the ice-snow, now quite hard and slippery, but its irregularities cause us to seek the rocks. It is necessary to use both hands and feet. At first the trail leads over steep, crumbling ground and around large rocks, and we slide back every other step nearly as much as we work ahead. When we reach the more rocky ground everybody is well tired out. While the rocks now afford more substantial foothold, the steps are long, and the rocks sometimes roll or slide. We work upward, though slowly, climbing among sharp angular slabs, about rough rocky points, now edging to one side, now to the other, of the ridge. As we rise the view is a superb one, and we almost forget our fatigues. But in climbing the Cleaver one must watch his steps closely or he may rue it, so that the view must remain for a time a secondary consideration. Finally, twisting among great rocks on the side that looks straight down upon the Nesqually Glacier, and carefully working around a rock of the centuries that rises high above us, and where a fall means sure destruction, we come to a little widening of the ridge, where it is protected from the wind, and our day's work is done. We are several hundred feet below where we intended to bivouac, but it is 7 o'clock, night is coming on rapidly, and so we throw our packs on the rocks, while Sarvent hastens up to the Gibraltar Camp for our provisions, left there the day before.

We all needed rest, and we sat on the rocks for a time and took it, and compared notes. Our cold supper was not long in being eaten, for strange to state, none of us seemed very hungry. Then we arranged our sleeping places. By the side of a protecting slab of lava we found a level spot

about six feet wide and eight feet long, upon which four of our party made their blanket beds.

We were in a little cove formed by rocks on one side, an ice-wall on the other. At a point where the ice came in contact with a large rock there was a good-sized hole or cave. The remainder of the party conceived the idea of enlarging this icy aperture, leveling the floor, and spreading their blankets there. This they did after a good deal of scraping and digging, and after they were ensconced therein, sardines were never more snugly packed.

Twilight lingered with us a long, long time. During its continuance I enjoyed the prospect that opened on every side. Twilight reveries are dear to me, and it was with a feeling of innate satisfaction that I stood leaning upon the rocky rampart that formed the backbone of the ridge, and looked out over the world below — aye, and that that still rose above us.

The great, wide snow-fields over which we had plodded, they and their tremendous ramifications extended everywhere.

Paradise Park seemed a magnificent mountain court.

Afar to the west were Goat Mountain and Eagle Crag, rising splendidly out of the congeries of mountains about them. Still westward, fainter but showing well the peculiarities that gave them name, rose the Sawtooth Range, dark and arrogant. And below, the Tatoisch lifted itself out of the depths with that infinite grandeur that seemed enshrined within it. Away down its slopes, lying on the very edge of a cliff, was a small lake, lonely and lovely. In the midst of the forest, with huge peaks frowning above it, and an abrupt cliff below, down which a long line of spray marked the course of the stream that was its outlet, it was a mountain gem of rare beauty.

To the east is new country. Until now almost entirely shut off, the Cowlitz Glacier and its branches, cañons, and cliffs, the main range of the Cascades rising farther to the eastward, excite my lively interest.

The head of the glacier is before me as I turn around, steep, harsh, forbidding, and below, it leaps down into the cañon, a broken, crushed, contorted ice-fall, while in plain view near by a crevasse yawns. The clouds of the day are now in the east, hanging over the vast depression or valley between us and the main range.

A great sea of glorious, white, balloonic clouds, absolutely motionless, apparently, to their minutest particles, in an ocean of space.

Ah! but Gibraltar. It rises in its sentinelship higher and grander than ever. No sun though now to lighten up its vertical expanse, and it appears gloomy, austere, cold, but as full of majestic proportion as ever. A noble rock, noble in shape, noble in appearance, noble in its dignity, noble in dimensions, and most nobly placed, long may it stand, a bulwark fitting and appropriate to the king of peaks!

As I stand, enraptured, charmed with the vastness of the scene and the vastness of the solitude as well, a deep boom and crash and roar breaks upon the quiet night. Springing to a higher rock, I gaze in the direction of the sound. No need to tell what it is. Each one knows the meaning of the direful sound, and yet the shout of "The avalanche! the avalanche!" breaks from each throat.

I see hurled from the heights above the Nesqually Glacier, from near where our route on the morrow leads us, a large, rolling, tumbling cloud of finely pulverized, comminuted ice and snow — snow-dust. Behind this effectual veil we know, but can really see little, that great boulders of ice, snow, and rocks are pitching headlong down the glacier. As it rolls downward the cloud expands and we see better. Some of the debris meets an obstacle and stops then and there; some of it tumbles into the first crevasse that lies athwart its path; some of it in its fearful momentum leaping this, but meets the same fate in the abysses farther down. For hundreds, perhaps a thousand or two thousand feet, some of it continues its unchecked course before the last sounds die away and the snow-dust has vanished. The sound and thought of it is more awful than the sight. The latter has its harsher, more terrible aspects hidden by the beautiful snow-cloud; and it is well.

We have no gorgeous sunset, such as we had hoped might be our good fortune; only a rather commonplace one, yet attractive. As it grows colder, we turn in under our blankets. It is pretty tight squeezing. I lie and watch the stars, and am disappointed at the lack of brilliancy they show. We are in a night of deepest solitude. No note of bird nor hoot of night-owl breaks the silence; not the chirp of an insect is heard. Even the canine-like bark of the coyote, wherein one fills the void that seven ought to, is conspicuous by its absence. The rocks speak not; there are no trees whose leaves rustle in the night breeze. Naught of life or sound save the stertorous breathing of a sleeper, or at long, long intervals through the night the muffled speech of the avalanche.

Nor was the sunrise on the morning following all that we might have desired. We were out of our cold, hard beds at 4.30 o'clock. The air was very cold. My shoes were cold and stiff. As fast as each man got on his foot-gear — our clothes were already there, we having slept in them — he began to dance about on the rocks and ice to warm his feet and start the circulation. The spot soon resembled a nest of jumping-jacks, or a retired nook where a small band of Indians were engaged in a war-dance. This seance continued for a full half-hour, and then when somewhat comfortable we munched our frozen breakfast and drank iced coffee.

The clouds were still crowded in apparently immovable masses high above the sleeping earth, in an extended plain. The track of the sun

across them, as it slowly rose over the Cascades to the east, was a golden pathway. To the south, Mounts Adams, Hood, and St. Helens were plainly visible, that is their tips were, and Jefferson's outlines, to the right and far south of Hood, could be faintly made out.

COWLITZ CLEAVER TO THE SUMMIT—GIBRALTAR ROCK.

At 6.30 o'clock the upward climb was resumed—by five of us. Two of them felt that they had lost no craters, and that the Gibraltar trail and the ice slopes ahead had no charms for them. They, therefore, bade us Godspeed on our farther journey, and at our halting-place on the rocks, some distance ahead, we saw them carefully picking their downward course among the huge rocks of the Cleaver.

Our route led over the highest portion of the Cowlitz Glacier. The ice now was hard and slippery, and it required hard thrusts to make the points of our alpenstocks penetrate the ice sufficiently to afford one a hold should he unfortunately slip. Should one fall, the unlucky man would have a rapid and dangerous descent, for the slope was very steep, nothing to break his momentum, and only a short distance below, a crevasse.

We were compelled to work over this spot with the utmost caution, and to my mind it was by all odds the most dangerous part of the entire ascent. After a time we reached the rocks again, and it was necessary to cut some few steps in places where it was half ice, half rocky material pulverized. This climb of 750 feet was undeniably hard on all of us. A cold supper the evening before, a cold night of discomfort, and a frozen breakfast were by no means conducive to rapid nor easy climbing. We were well satisfied when in little more than an hour we found ourselves at the bivouac at the foot of Gibraltar, which we had hoped to reach the evening before.

To fill in the time, while waiting certain necessary repairs to our outfit, some of us rolled rocks down to the Nesqually Glacier. The upper heights, the formative parts of this great ice river, lay spread out before us. The ridge upon which we were was a perfect precipice on its western side, and from its base, hundreds of feet below, the glacier stretched away across the cañon, to the white wall that dropped down from Peak Success to meet it. Loose rocks of all sizes abounded at the edge of the ridge, and these we pushed over the cliff and watched them as they leaped downward. The first drop was of course a dull, sheer, lifeless one to the first place that it struck. This was 20, 50, 100, 200 feet, as it might be, depending upon the size of the boulder and the force with which it was hurled over. But the moment it struck it was transformed. It seemed as if imbued with demoniacal life. With a malicious spring it bounded

far out into the air and downward, revolving at the same time upon its own axis. At a distance of another 50 or 100 feet it again came in contact with the rocky ground or the ice, and the same jump outward was seen. Over and over again this was repeated, until the rock plunged down into one particular crevasse that none of them could clear. There was a great fascination in this, and every man of us indulged in it. The fate of any one unlucky enough to slip or fall was plainly seen.

GIBRALTAR ROCK.

I have made mention frequently of Gibraltar Rock. In writing of Mount Rainier, especially the southern side of it, one must necessarily do so. The literature of the mountain is full of it. The mountaineers are full of it. In the views of the peak from the south, southeast, and southwest, it is a conspicuous feature of them. In the climb to the summit its narrow ledge that must perforce be traversed, is felt by many to be the most dangerous part of the way. The danger consists in the fact that, during the warm hours of the day, stones are continually falling over its sides and are not unlikely to strike the passer on the trail, which might indeed be serious. No rocks are ever mentioned as falling at other places, and it seems somewhat anomalous that here alone they should be found. Now as I sit at its base and cast my eye up and down its swarthy, vertical sides, and study its structure, I understand what this all means.

One of the products of volcanic eruptions or explosions is known as volcanic breccia. This consists of angular fragments of volcanic rocks cemented together in a paste of volcanic dust or mud. It is often intercalated, or interstratified, with layers of lava, and this is the case with Gibraltar. It is not therefore a mass of hard, volcanic rock, but an indurated, pasty composition easily affected by the rain, snow, frost, and ice, in conjunction with the heat of the sun. The moisture of the atmosphere permeates it, and penetrates its crevices and fissures. The alternate freezing and thawing to which it is subjected disintegrates it, loosens the rocks, which drop during the heated portion of the day, and works in its surface great holes, almost caverns in some instances.

This great landmark, nearly 2,000 feet high, is conspicuous from the fact that it rises in the sea of white about it, almost barren of snow. Just east of it rise the Cathedral Rocks, a fine palisade with a sharply-notched comb.

GIBRALTAR TO CRATER PEAK.

Before reaching Gibraltar I had serious misgivings whether I should undertake to pass it. I had made a promise that I would not imperil my

life needlessly merely for the glory of the ascent, and rather expected, from reports of this dangerous passage, that I would proceed no farther. I therefore, upon arrival, examined it with much interest and anxiety, and soon concluded that I had many times risked my neck in as dangerous places without thinking much of it. Of mountain-climbing among rocks, cañons, cliffs, etc., I had done a good deal, and when I discovered that the ice factor was mostly eliminated from the problem, I felt very little concern. Ice-climbing was new to me; the rocks and I were old companions.

When all was ready and we were again pushing ahead, it was with a peculiar feeling that I found myself really working around the base of the mighty rock, the *bete noir* to so many. The distance that must be covered is about one-quarter of a mile, but the time required to do this is considerable. The face of the cliff at this point is cut away into a number of small ledges, so that one not familiar with the spot is more than apt to take the wrong one, and in the end find himself in an embarrassing and probably dangerous position.

The ledge along which leads the trail lies at the base and at an outward angle from the cliff, and in places this angle is decidedly acute, the ground hard or stony, so that a firm foothold is next to impossible.

It is also very, very narrow; and below, the inclination is such that should one slip and fall, nothing short of a miracle would prevent being carried down to the glacier and into the crevasses, even if not dashed to pieces on the sharp rocks first encountered.

For most of the distance the face of the precipice above the trail slopes toward and under the cliff, so that a man passing along, even at midday, can be protected from falling stones by hugging the rock closely.

To make sure that no accidents should befall us, an inch rope left at this point by Sarvent in 1893, was used at the worst place, being wound about nubbins of rock at each side of the spot, and held to with one hand. One can find slight projections of rock to grasp for the greater part of the way. At the farther end the ice is reached, a long tongue extending down from the top of the rock. It appears almost insanity to think of ascending this, gazing upward from its base, and from Camp of the Clouds seems absolutely impossible. As we found it, it was not difficult after a little experience and our nerves were steadied.

The manner in which the sun strikes this mass melts it in such a way as to form an infinite number of terraces or steps, very small, but, if the ice be not too soft, just the width for convenient climbing. They are, too, for the most part, at easy distances from each other.

Sarvent would climb up for the full length of our rope — 200 feet — then sitting down, plant himself firmly, with one end of the rope fastened to

his waist. Then grasping the trailing rope, at intervals of twenty-five feet apart, we would "follow the leader." We soon found that simply holding the rope line in the left hand without bringing any strain to bear, was all that was necessary. It gave us the confidence required to get along by ourselves, practically.

It is lunch time, noon, when we find ourselves at the top of Gibraltar. We have climbed well since the ice was reached, and are now warmed to our work, and the cold night and cold breakfast are forgotten.

Anxious to proceed, we dispatch lunch rapidly, and now, as our route is entirely over ice, comes a new wrinkle. Our strong sash-cord is doubled, and at about twenty-five feet distant from each other, it is firmly tied about each man's waist and we are off.

Instead of zigzagging up the ice, Sarvent goes straight up a slope that makes me hold my breath for an instant. As we go right along, easily and without slipping, our alpenstocks in our right hands, our left hands grasping the rope that trails from the man in front and keeping it taut, I feel no alarm.

We are doing splendidly— every man holds out well. No nose-bleed, no nausea, no faintness nor giddiness, and seemingly no tired legs, weak lungs, nor fluttering hearts.

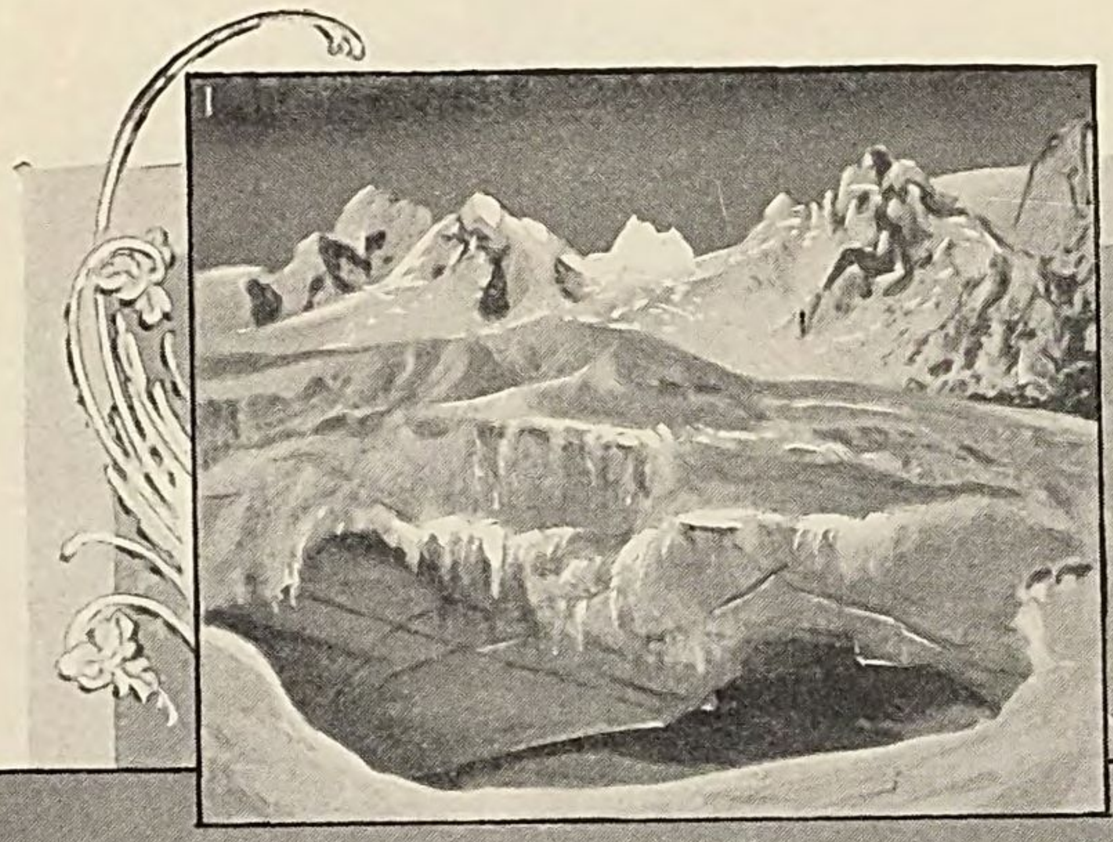
We are aiming for a point midway between Peak Success and Crater Peak. A crevasse or two are headed. Deep, narrow, clean-cut in cleavage, the ice stratification beautiful, they are fascinating to gaze into— but to fall into—ugh! Two or three smaller ones are jumped across or passed over on ice—snow bridges—treading lightly.

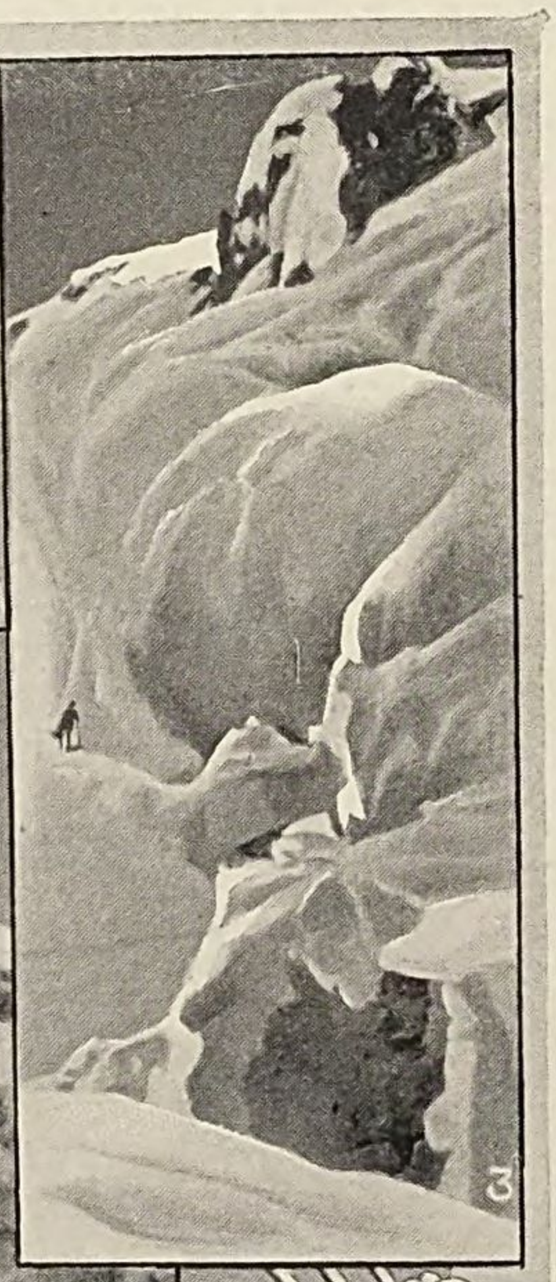
Our course has been to the west. Now, as we are well up the side, we turn toward the north, and at last the divide is reached. Hastening on, a stout pull and a long one, and we are on Crater Peak and crossing the western crater, so-called.

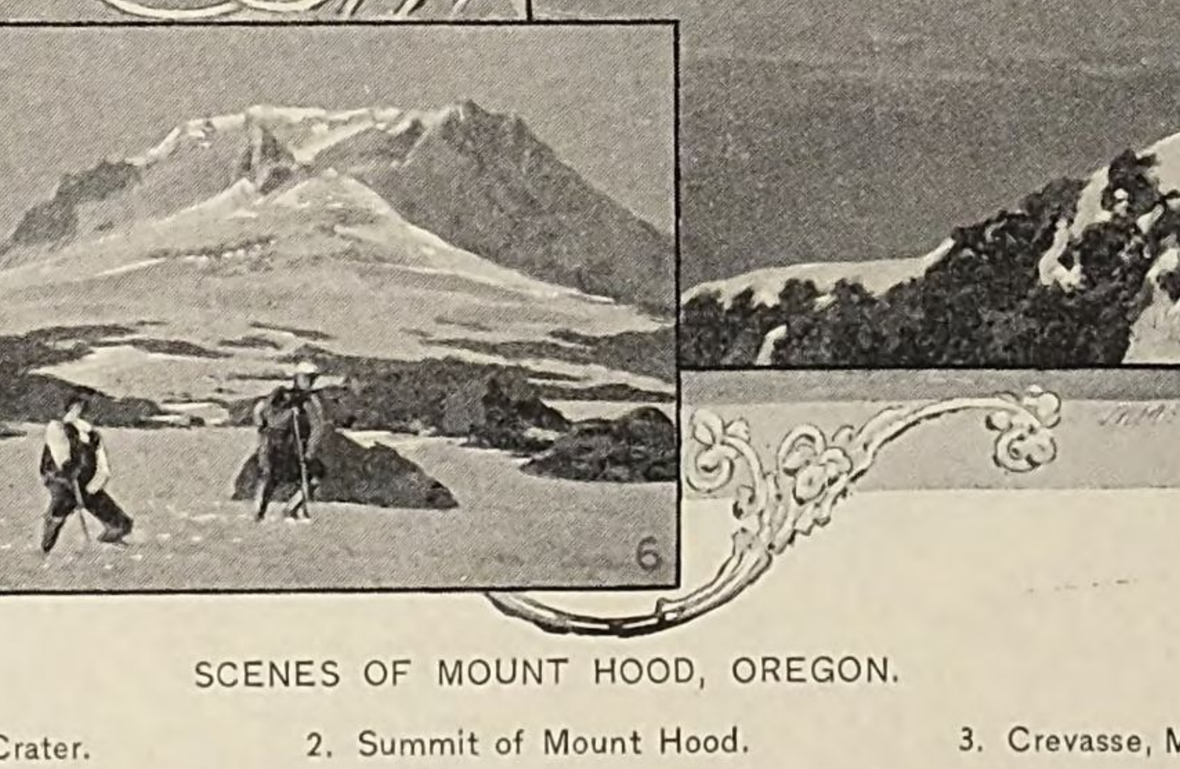
Before us, higher yet, rises a white, glistening dome of snow, not unlike a human skull in contour. It is a beautiful sight, *and the highest point of Mount Rainier.* We hurry onward, and at 2.15 P. M. of August 8, 1894, we are standing on the topmost point—Columbia's Crest, as Major Ingraham's party have happily termed it—of the great mountain chieftain, the King of Peaks.

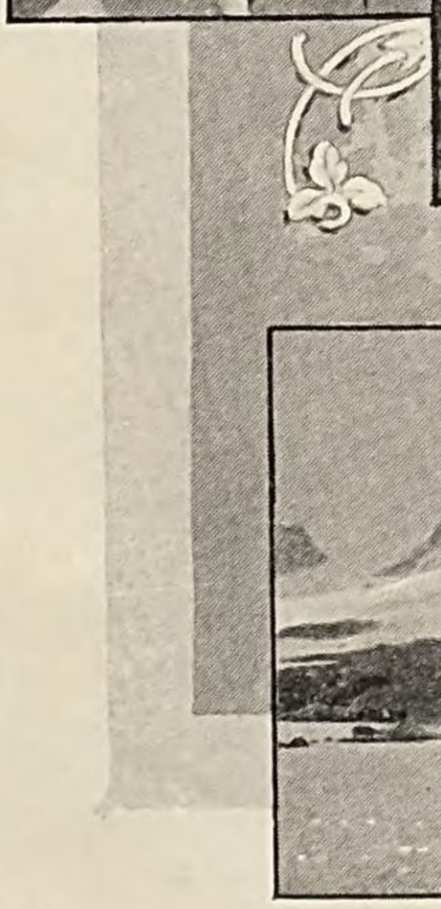
THE SUMMIT OF MOUNT RAINIER.

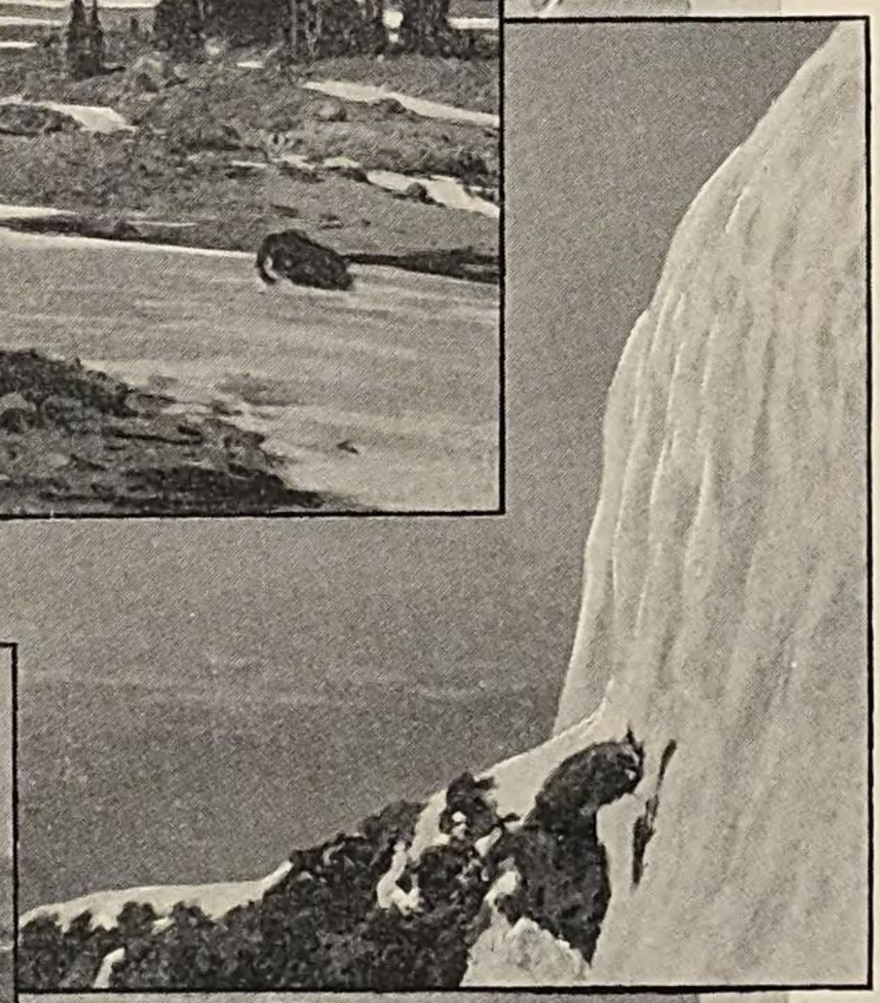
At last the time is come, the eventful day has arrived, when a long cherished plan has reached its fruition. From far over in the Yakima Valley I had seen this peak peeping above the main Cascade Range, and wanted to stand thereon. From Tacoma and Seattle I looked across the intervening space, and gazed upon this Colossus of mountains,

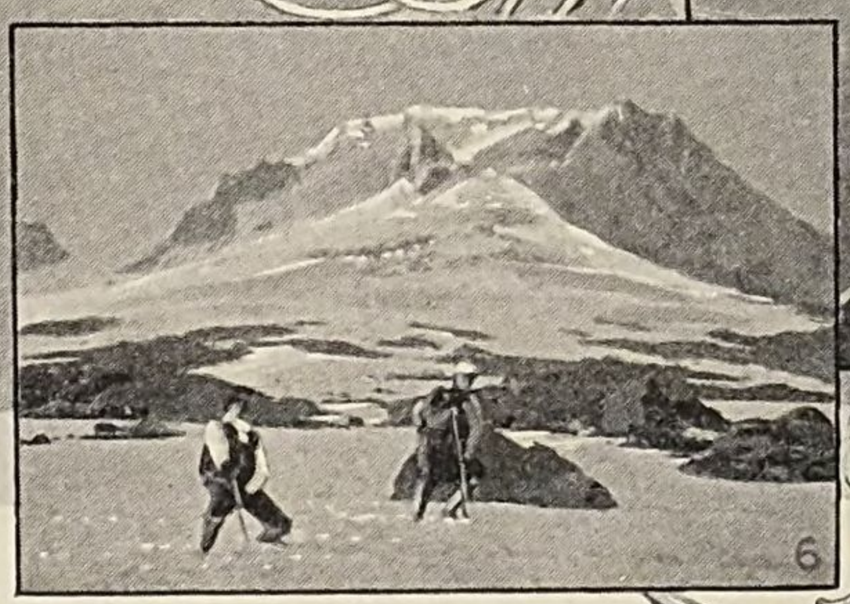












SCENES OF MOUNT HOOD, OREGON.

1. Looking into Crater. 2. Summit of Mount Hood. 3. Crevasse, Mount Hood.
4. Hood from Rainy Camp. 5. Snow Bluffs. 6. Descending Hood.

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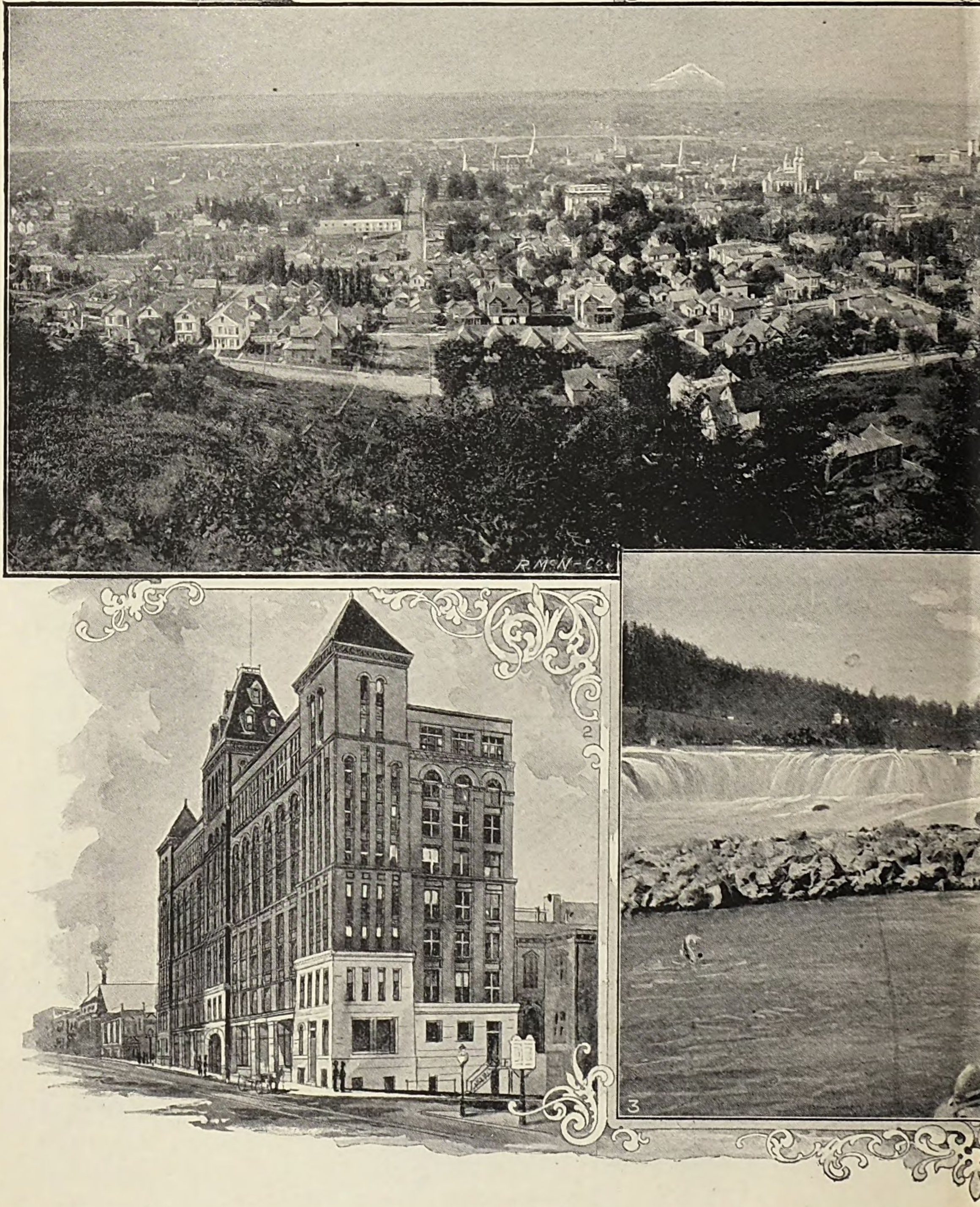


SCENES IN POR

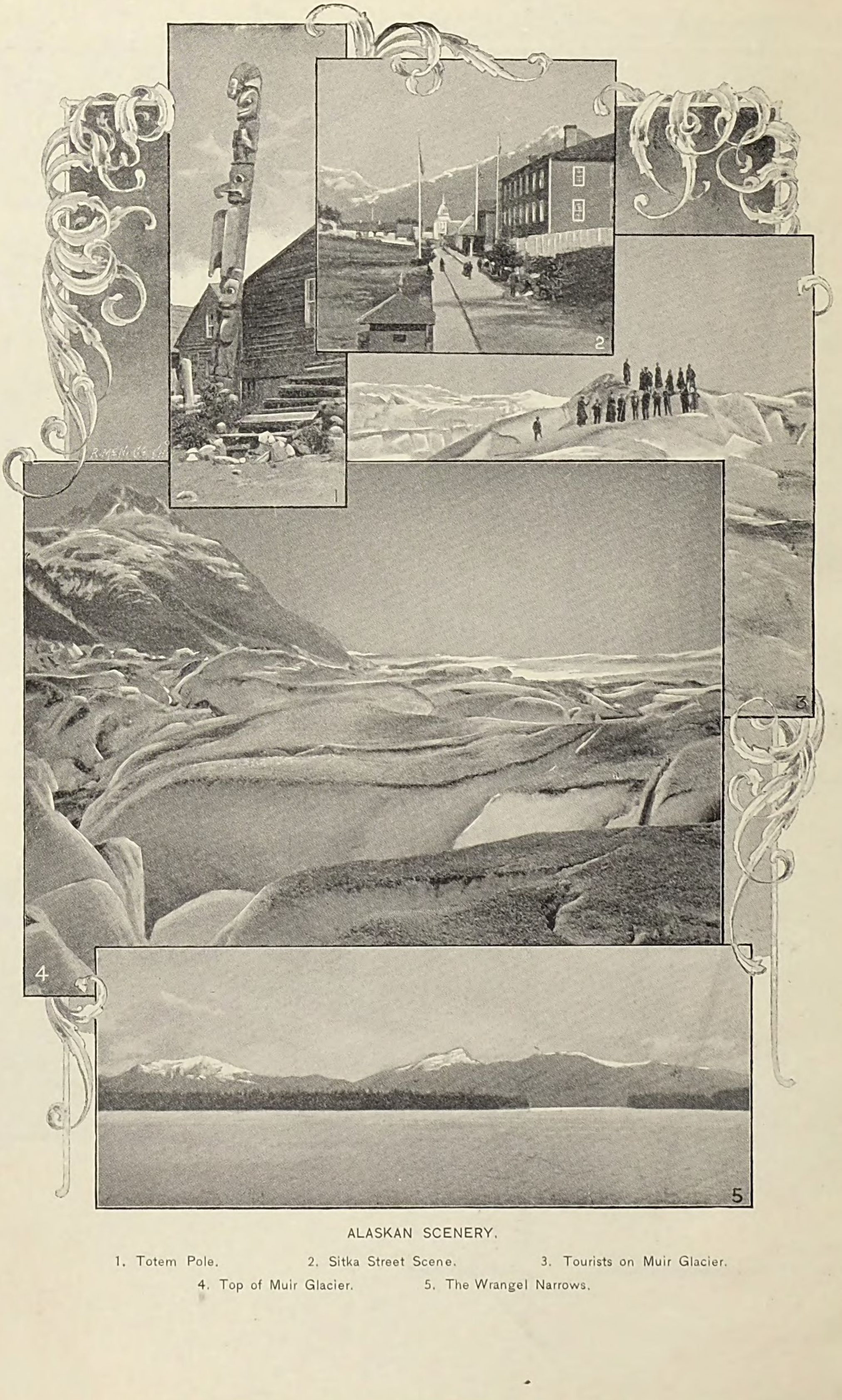
1. Portland.

2. Marquam Theater Building, Portland.

PORTLAND, OREGON.

3. Falls of Willamette, Oregon City.

4. Hotel Portland.



ALASKAN SCENERY.

1. Totem Pole. 2. Sitka Street Scene. 3. Tourists on Muir Glacier.
4. Top of Muir Glacier. 5. The Wrangel Narrows.

wrapped about by ethereal mists, and wanted to tread that pinnacle of earthly glory. From my hotel window at Tacoma, I once more saw it suffused in all the glory and soft radiance of a sunrise, when in its light bath of the morning it seemed as if it might be the herald, the harbinger of the coming millenium — and more than ever I wished to breathe the air that circled about its immaculate crest. The dream had come true, the wish was gratified, and now I stood 14,444 feet above the ocean's surge, 6,000 feet above the clouds, 2¾ miles above Manhattan Island, Florida Keys, and San Francisco's Golden Gate, and looked out upon a scene that any man might thank God for enjoying.

In front of us yawned a chasm, a white *nevé* ice cañon, hundreds of feet deep. On the other side of it rose the sharp rock and snow-peak of Tahoma, or Liberty Cap, more than a mile distant. The eastern prolongation or spur of Tahoma Peak was sheared off, parabolically, at a very steep angle, as clearly as though done with a mammoth knife, and the entire slope was a shining crystalline bed of *nevé* ice. This cañon is stated by Mr. Emmons to be the interior of a very old and very large crater, of which the peaks are remnants.

To the southwest we looked down on Peak Success, a mile away. The Tahoma Peak is about 13,800 feet high, and Peak Success 14,000 feet above the sea. The sides of the mountain in all directions were composed of glaciers — ice everywhere! It tumbled down in great waves, cascades, cliffs, and extended, shining slopes, scarified by the ever-present crevasse that yawned and gaped in deep and fascinating terror.

To the south, back of us, and now hidden from sight, was the familiar Nesqually Glacier. To the southeast was the Cowlitz, another and smaller branch of which we now saw, and the main body of which was visible in the distance; also the cañon through which the river itself flows. To the northeast an immense body of *nevé* ice, considerably more than a mile wide, swept down in a dazzling sheet, giving birth to three large glaciers, the White River, Inter, and Winthrop. Flowing from the terminals could be seen the three branches and main White River, white indeed as they issued from the glaciers. On a dome of ice and snow we stood midst an unbounded sea of the same; a majestic, a god-like peak, overspread with the immaculate enameling of nature, which in turn became the mother of numberless rivers that hied themselves to the sea. It was indeed wonderful, and well worth the toilsome climb to reach it.

On either side of our white, rounded crest lie the craters, the western one the smaller and rather indefinite; the eastern, oblong, well marked, with its black, serrated rim inclining inward, and rising 10, 15, 20, 40 feet above the interior that is a floor of snow, sloping toward the center.

Craters — that means volcano, and it flashes over me that I am standing

at the extreme point, the top of *a volcano*. Once there burst from this very place clouds of steam and ashes; rocks were hurled aloft — those over which we have but just been climbing; rivers of burning lava, fantastic, fiery serpents, that wriggled and hissed, and scorched and devastated, as they trailed down the sides, issued from these vents.

Now all is changed. The fires are quenched; the serpents scotched. The Fire King is conquered by the Ice God, and death and destruction are no more; the deluge of fire is smothered under the deluge of snow.

Is that true?

Glance down yonder ridge that slopes eastward from where we stand. See how red and bare it is. No snow there. Small puffs and fleecy jets of steam emanate from it. Let us leave this cold icy poll of the mountain, for the wind blows hard from out the west, and we are chilled and shivering. Let us go down and investigate.

What find we?

A rounded reddish ridge, barren of snow, leaning toward the interior of the crater, and evidently a part of its rim. The ground is moist and warm, so warm that we lie down upon it that our bodies may gratefully absorb some of its heat. By some process the rocks have been changed into a clayey mass, through which the steam issues from a jet the size of a pin-point to a respectably-sized column. If you place your hand over one of them it will scald you. Down among the rocks are more steam-clouds, and thus we see that even yet the internal heat of this old pile still maintains the unequal struggle.

The grandest sight vouchsafed us from the summit was that of the clouds that lay beneath and all around us. The land below was completely hidden from view. It seemed as if all the clouds of the North Pacific Coast had arranged themselves about this peak. Never saw I anything like it before.

A magnificent plain of clouds, the most imposing, and of tremendous depths, encircled us except immediately about the mountain itself. The surface was choppy and hummocky, much as I fancy an arçtic landscape to be. We seemed completely shut out from the world that we knew, and in a strange, weird, lifeless one. It is almost beyond the power of description, either written or verbal, to convey the faintest idea of the sight that greeted us, turn whichever way we might, and of the feeling that came over us. A perfect ocean, a wilderness of clouds, stretching in illimitable plain to the farthest realms of vision, motionless, as though they always had been there, always would be. The only features that seemed real and familiar to us were the peak upon which we stood, and the others that projected above the vapory plain.

To the north, the noble head of the Baker of Vancouver, the more

euphonious Kulshan of the red man, showed itself; to the southeast, the truncated cone of Mount Adams, the Indian Pah-to, rises not far distant; south, the graceful, symmetric, Hood pierces the clouds to the height of 11,225 feet; while southwest, St. Helen's, as the white man calls it — Lah-me-lat-clah as the aborigine knows it — broke upon the horizon.

THE DESCENT.

At 3.45 o'clock we began the descent and made rapid progress. Retracing our upward trail, when we reached the top of Gibraltar and looked back at the slope over which we had come, it was hard to believe that we had climbed down it. The sun had set when we passed the great rock safely.

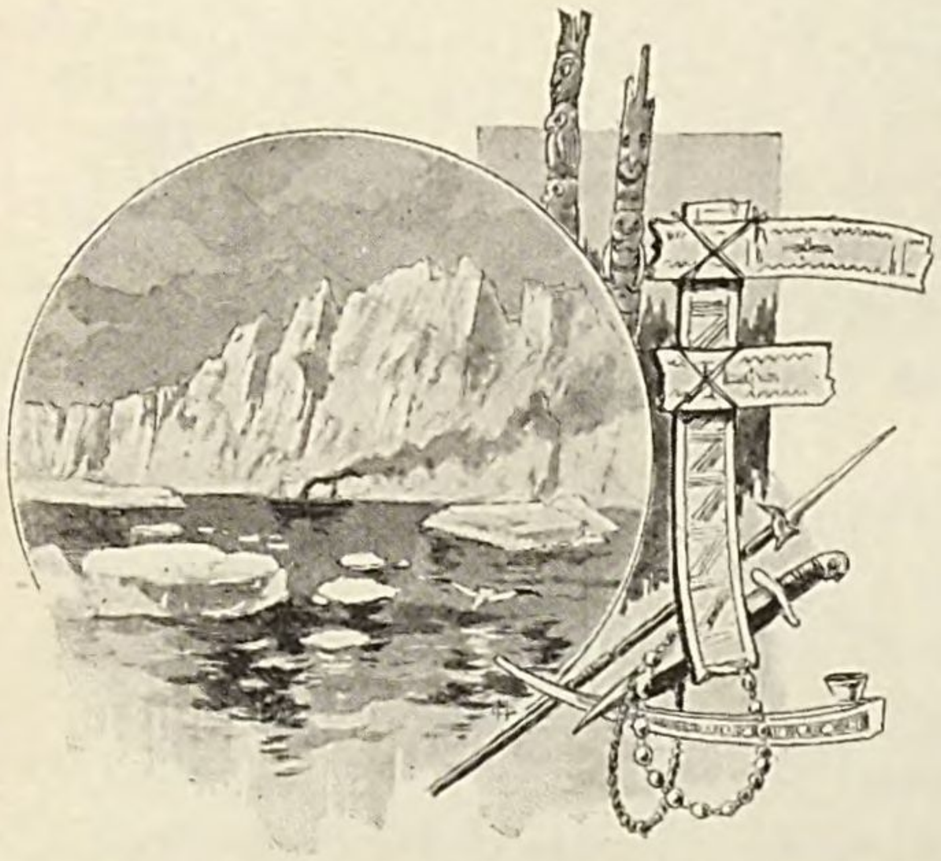
There is little danger in climbing around this place in the early morn or late afternoon, if one has good nerve, a cool head, and uses ordinary caution. No one, though, deficient in the above qualities has any business there, and one unused to it should not *dare* to try it without a good guide.

We hastened down to our old bivouac, hastily ate a little lunch, donned our packs, and started down the Cleaver. It was quite dark when the snow-field was reached, and the distance to Camp of the Clouds was made by moonlight.

We were all fatigued, and this part of the descent was hard on us, and especially trying to me. The uneven surface and no daylight made it impossible to see, and our steps were taken on faith. My knees gave out for a time, and I had half a dozen falls, none of them serious. Then my knees braced up, and I reached camp in better condition than when half-way there. We kept on the snow; sat and slid down two or three snow-hills, bumpety-bump, and arrived at Camp of the Clouds at 10.30 o'clock, and were received by our friends with three cheers and a tiger.

Since the above narrative was written great changes have taken place about the mountain. In the autum heavy avalanches fell on the western side, and during the winter on the north side. So tremendous have been the latter that the aspect of that part of the peak has undergone a profound change, and at one time it was thought the mountain was in a state of eruption. A winter expedition led by Major Ingraham, after many hardships and dangers, ascended the mountain on the north side sufficiently high to verify the fact that these avalanches occurred.

ALASKA.



"FROM Greenland's Icy Mountains" to Alaska's icy domains is a long, long distance. While there still appear to be a few who are anxious to achieve notoriety by searching for a north pole via Greenland, the majority of sane people seem willing to let them have a monopoly of the business and, caring little for the pole, enjoy themselves in cruising in a fine steamer along the picturesque ice shores of Alaska.

The possession of Alaska rounds out the variety of scenery found within the bounds of the United States. To have Niagara Falls, the Grand Cañon of the Colorado, the Yosemite Valley, and the Yellowstone Park, all within the domains of one country, were in itself glory enough. Add to this the grandest ice scenery of the world, and we then have a category of sights that ought to draw the wealth, and culture, and refined of earth itself to our shores to see them. Instead, and the more shame to us, *our* wealthy and supposedly cultured classes fairly swarm over Europe, spending precious time and immense sums to see what can be completely eclipsed in their own land.

The Alaskan tour is pronounced by those who are the great travelers of the world to be the grandest trip under the sun. And nowhere can any tour approaching it be taken with such ease and comfort. Comfortably fixed on a commodious steamer; steaming over an inland sea where rough water and sea-sickness are unknown; to be thus situated, and then for more than 2,000 miles, from Tacoma to Sitka and return, see such an enchanting, varied, and novel landscape as this pass before one, seems almost too good to be true.

The steamer's course to Alaska is through a great archipelago. Islands without number abound, and this is one of the striking peculiarities of the tour. The other points are the stupendous mountains —for in this region the maximum development of North American

mountains is found — and the glaciers, both as regards number and character.

It may perhaps be an open question as to which produces the greatest interest in the minds of most tourists — the islands, mountains, or glaciers. It may reasonably be supposed, however, that the latter, from their novelty, find greater favor than the other scenic attractions.

To such an extent has tourist travel to Alaska increased, that a fine steamer is now devoted entirely to this service. The regular season extends from May 1st to September 30th. During this period the steamer Queen makes the round trip from Tacoma to Sitka at frequent and regular intervals, in about twelve days, stopping at the more prominent points. Time is allowed for the tourist to explore somewhat the quaint Alaskan towns, scramble over the glaciers, and familiarize himself as far as possible with the many things to be found that are sure to be novel and interesting.

When veteran travelers pronounce this the finest trip to be found in the world, it behooves those who can do so to enjoy the pleasures of such travel. Dr. Henry M. Field, the editor of the *Evangelist* of New York, and a celebrated traveler, made this trip in 1894. Among other things he writes: "The day after we left Juneau we steamed into the Bay of Chilcat, where two inlets lead up into the mainland, around which circle the mountains and the forests, in whose dark bosoms are counted no less than nineteen glaciers! But I had eyes only for one, the Davidson Glacier, which, if I were to distinguish it from other glaciers, I should say was more beautiful than terrible, as it descends by a gentle slope from the mountain height, spreading out its fan-like borders till it is three miles wide at the shore, where it dips its cold feet in the sea."

Other prominent glaciers are the Patterson, Taku, Auk, Eagle, and the Muir, all of them full of interest to the tourist, especially the latter, which is easily accessible.

NORTHERN PACIFIC R. R.

Rates and Arrangements for the Tourist Season.

MINNESOTA SUMMER RESORTS.—The Northern Pacific Railroad will sell round-trip excursion tickets from St. Paul or Minneapolis to Glenwood (Lake Minnewaska) at $5.25; Battle Lake, $7.50; Fergus Falls, $7.50; Perham, $7.75; Detroit Lake, $9.15; Minnewaukan (Devil's Lake), $18.65; Winnipeg, $22.50. From Duluth or Superior to Deerwood, $3.80; Battle Lake, $7.50; Fergus Falls, $7.50; Perham, $7.75; Detroit Lake, $9.15; Minnewaukan, $18.65; Winnipeg, $22.50. From Ashland, Wis., to Battle Lake, $9; Fergus Falls, $9; Perham, $9.25; Detroit Lake, $10.65; Minnewaukan, $20.15; Winnipeg, $22.50. Tickets on sale May 1st to September 30th, inclusive. Good going to Minnesota resorts one day (from Ashland two days), to Minnewaukan (Devil's Lake), and Winnipeg two days from date of sale. Good to return on or before October 31st.

YELLOWSTONE PARK RATES.—The Northern Pacific Raliroad will sell round-trip excursion tickets from May 29th to September 28th (both dates inclusive) at the following rates:

A $47.50 round-trip ticket, St. Paul, Minneapolis, or Duluth to Livingston and returning same route, or via Billings to the Missouri River.

A $5 ticket, Livingston to Mammoth Hot Springs Hotel and return, including rail and stage transportation.

A $49.50 ticket, Livingston to Cinnabar and return, Cinnabar to Mammoth Hot Springs, Norris, Lower, and Upper Geyser Basins, Yellowstone Lake, Grand Cañon, and Falls of the Yellowstone and return, including rail and stage transportation, and five and one-half days' accommodations at the Association Hotels.

The $5 and $49.50 tickets on sale at eastern and western termini between dates first named above, at Livingston May 31st to September 30th, both dates inclusive, are good if used in the Park any time between June 1st and October 6th, both dates inclusive, and do not require identification of purchaser.

The hotel service in the Park is now very complete. Tourists can stop at any of the principal points of interest with the assurance that comfortable accommodations will be supplied them.

MONTANA AND EASTERN WASHINGTON POINTS.—The Northern Pacific Railroad will, from May 1st to September 30th, sell round-trip excursion tickets, from St. Paul, Minneapolis, or Duluth, at greatly reduced rates to Billings, Springdale, and Bozeman, Mont.; Helena and Butte, Mont., (choice of routes returning, via Northern Pacific, Union Pacific, or Great Northern Railway lines); Missoula, Mont.; Spokane, Wash., (choice of routes returning, via Union Pacific, Great Northern, or Northern Pacific lines); Medical Lake, Pasco, Kennewick, and Toppenish, Wash.; Nelson, and Kaslo, B. C.; and Coulee City, North Yakima, and Ellensburg, Wash.

These tickets are of iron-clad signature form; require identification of purchaser at return starting point.

Any of the above tickets may read to return via Billings to the Missouri River.

NORTH PACIFIC COAST EXCURSIONS—A $90 round-trip individual excursion ticket, St. Paul, Minneapolis, or Duluth to Tacoma, Portland, Seattle, Vancouver, or Victoria, is on sale daily at points first named and by eastern lines.

Tacoma, Seattle, Victoria, Vancouver, or Portland tickets, at above rates, will be issued, going via Northern Pacific, returning via same route, or Great Northern, or Soo-Pacific to St. Paul, Minneapolis, or Duluth; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River; Portland tickets will also be issued, returning via Union Pacific to either Omaha or Kansas City, or to St. Paul via Union Pacific Railway through Sioux City.

CONDITIONS.—Above tickets limited to nine months from date of sale, good, going trip, sixty days to any one of North Pacific Coast termini named, returning any time within final limit.

ALASKA EXCURSIONS.—An excursion ticket will be sold from eastern termini named to Sitka, Alaska, at $185, which rate includes meals and berth on the steamer. Tickets on sale May 1st to September 30th. Limit nine months. Going to Tacoma, sixty days, returning within final limit, holder to leave Sitka on or before October 31st. Tickets will be issued to return either via the Northern Pacific, Soo-Pacific, or Great Northern lines to St. Paul or Minneapolis, or via Canadian Pacific Railway to Winnipeg or Port Arthur. Usual stop-over privileges granted. Steamer accommodations can be secured in advance by application to any of the agents named below. Diagrams of steamers at office of General Passenger Agent at St. Paul.

"TO THE WESTWARD."—The Alaska Commercial Company's steamer Dora will sail from Sitka for Ounalaska, in Behring Sea, 1,300 miles distant, on the 1st of April, May, June, July, August, September, and October, stopping at Prince William Sound, Kadiak, and Unga. Close connection is made with the Pacific Coast Steamship Company's vessel City of Topeka. The steamer Dora has accommodations for twenty-two cabin passengers. Round trip is made in from twenty-seven to thirty days, three days of which time are spent at Ounalaska. Round-trip rate from Sitka, including berth and meals on boat, $120.

A NOTABLE BOOK.—Perhaps the most interesting book yet written on Alaska is that from the pen of Mrs. General C. H. T. Collis, bearing the title "A Woman's Trip to Alaska," from the press of the Cassell Publishing Company, New York.

CALIFORNIA EXCURSION RATES.—The Northern Pacific Railroad will sell round-trip excursion tickets from St. Paul, Minneapolis, or Duluth, as follows:

To San Francisco, going via the Northern Pacific, Seattle, and steamer, or Portland and the Shasta Route, or the ocean to San Francisco; returning via rail or steamer to Portland, or via steamer to Seattle, and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River; or via rail or steamer, Portland and Huntington to the Missouri River; or returning by the southern lines to Council Bluffs, Omaha, Kansas City, Mineola, or Houston, at $103.50; to New Orleans or St. Louis, at $109.50.

To Los Angeles, going via Portland and Shasta Route, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Billings or Huntington to the Missouri River, at $122.50; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at $113; to St. Louis, at $119.

To San Diego, going via Portland and rail through Los Angeles, and returning via rail, Portland and the Northern Pacific, Great Northern or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings or

Huntington to the Missouri River, at $129; or going via Portland and Shasta Route, and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at $119.50; to St. Louis at $125.50.

Tickets via ocean include meals and berth on steamer.

At the eastern termini of the southern transcontinental lines excursion tickets will be sold, or orders exchanged, for tickets to San Francisco, returning via either the Shasta Route, the all-rail line to Portland, or the ocean and the Northern Pacific to St. Paul, Minneapolis, or Duluth, at a rate $13.50 higher than the current excursion rate in effect between Missouri River points, Mineola or Houston and San Francisco. The steamship coupon includes first-class cabin passage and meals between San Francisco and Portland.

Return coupons reading from Missouri River points to Chicago or St. Louis will be honored from St. Paul or Minneapolis, either free, or with a small additional charge, according to route.

These excursion tickets allow nine months' time for the round trip; sixty days allowed for west-bound trip up to first Pacific Coast common point; return any time within final limit.

General and Special Agents.

B. N. AUSTIN, Assistant General Passenger Agent, St. Paul, Minn.
A. L. CRAIG, Assistant General Ticket Agent, St. Paul, Minn.
A. D. CHARLTON, Assistant General Passenger Agent, Portland, Ore.
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J. G. BOYD, General Agent, Wallace, Idaho.
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District Passenger Agents.

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